

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

Reserve
aTC970
.U53

CATALOG OF

APPROVED PRE-DESIGNS FOR NORTHEAST

— APD —

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING AND WATERSHED
PLANNING UNIT
UPPER DARBY, PENNSYLVANIA

AD-33 Bookplate
(1-68)

NATIONAL

**A
G
R
I
C
U
L
T
U
R
A
L**



LIBRARY

PREFACE

CATALOG OF APPROVED PRE-DESIGNS FOR NORTHEAST

The purpose of this catalog is to provide field offices in the Northeast a sample copy of all current Approved Pre-Designs. Listed are all the available APD drawings at this time. As new APD's are developed additional copies will be forwarded to provide a current record.

All samples are reproduced on 8 x 10½ inch sheets. The size of reproductions for field use is shown on the Table of Contents. They are also available on either opaque or tracing paper.

APD's may be ordered from the Cartographic Division (NES), on Form SCS-19. The following information should be included on the order:

1. Type of paper - opaque
2. Color of ink - black, green or red.
3. Printed front or back for transparencies.
4. Dimensions of sheet.
5. Number of copies.

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY
MAY 29 1984
CATALOGING = PREP.

17

18

000294

TABLE OF CONTENTS

APD NUMBER	TITLE	NO. OF SHEETS	SIZE FOR FIELD USE
201	Drop Inlet Pipe Spillway	1	10-1/2 x 15
202	Drop Inlet Pipe Spillway	1	10-1/2 x 15
203	Drop Inlet Pipe Spillway	1	10-1/2 x 15
204	Drop Inlet Pipe Spillway	1	10-1/2 x 15
205	Drop Inlet Pipe Spillway	1	10-1/2 x 15
206	Drop Inlet Pipe Spillway	1	10-1/2 x 15
207	Drop Inlet Pipe Spillway	1	10-1/2 x 15
208	Drop Inlet Pipe Spillway (Water Surface Control Device)	1	10-1/2 x 15
209	Drop Inlet Pipe Spillway	1	10-1/2 x 15
210	Drop Inlet Pipe Spillway	1	10-1/2 x 15
211	Drop Inlet Pipe Spillway	1	10-1/2 x 15
212	Drop Inlet Pipe Spillway	1	10-1/2 x 15
213	Drop Inlet Pipe Spillway	1	10-1/2 x 15
214	Drop Inlet Pipe Spillway	1	10-1/2 x 15
215	Drop Inlet Pipe Spillway	1	10-1/2 x 15
216	Work Sheet for Dugout Ponds	1	8 x 10-1/2
217	Drop Inlet Pipe Spillway	1	10-1/2 x 15
218	Drop Inlet Pipe Spillway	1	10-1/2 x 15
219	Drop Inlet Pipe Spillway (Water Surface Control Spillway)	1	10-1/2 x 15
220	Drop Inlet Pipe Spillway	1	10-1/2 x 15
221	Drop Inlet Pipe Spillway	1	10-1/2 x 15
222	Drop Inlet Pipe Spillway (Water Surface Control Device)	1	10-1/2 x 15
223	Drop Inlet Pipe Spillway (Water Surface Control Device)	1	10-1/2 x 15
224	Drop Inlet Pipe Spillway (Side Hill Type)	1	10-1/2 x 15
225	Drop Inlet Pipe Spillway (Used with 4" to 12" Steel Pipe)	1	10-1/2 x 15
227	Spring Development (Rectangular Trough)	1	8 x 10-1/2
228	Spring Development (Circular Trough)	1	8 x 10-1/2
234	Drop Inlet Pipe Spillway (Side Hill Type)	1	10-1/2 x 15
235	Drop Inlet Pipe Spillway	1	10-1/2 x 15
240	Drop Inlet Pipe Spillway	1	10-1/2 x 15
241	Drop Inlet Pipe Spillway (Side Hill Type)	1	10-1/2 x 15
251	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
252	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
253	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
254	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
255	Cranberry Bogs Water Control Structure	2	10-1/2 x 15
256	Cranberry Bogs Water Control Structure	2	10-1/2 x 15
257	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
258	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
259	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
260	Cranberry Bogs Water Control Structure	1	10-1/2 x 15

All APD's can be ordered on transparent or opaque paper.

TABLE OF CONTENTS (Continued)

APD NUMBER	TITLE	NO. OF SHEETS	SIZE FOR FIELD USE
261	Cranberry Bogs Water Control Structure	1	10-1/2 x 15
262	Cranberry Bogs Water Control Structure	2	10-1/2 x 15
263	Cranberry Bogs Water Control Structure	2	10-1/2 x 15
264	Cranberry Bogs Water Control Structure	2	10-1/2 x 15
265	Cranberry Bogs Water Control Structure	2	10-1/2 x 15
266	Small Animal Guard	2	8 x 10-1/2
267	Concrete Block Drop Inlet	1	8 x 10-1/2
268	Concrete Block Drop Inlet	1	8 x 10-1/2
269	Concrete Block Drop Inlet	1	8 x 10-1/2
270	Concrete Block Drop Inlet	1	8 x 10-1/2
271	Concrete Block Drop Inlet	1	8 x 10-1/2

All APD's can be ordered on transparent or opaque paper.

REFER TO

DROP INLET PIPE SPILLWAY

RISER : SQUARE CONCRETE BOX
 BARREL: CONCRETE, VITRIFIED CLAY, CAST IRON
 JOINT: WROUGHT IRON, OR STEEL PIPE

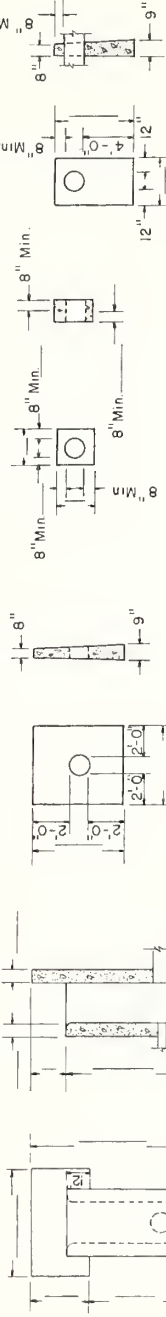
VOLUME OF CONCRETE		CU YDS
ITEM		
RISER		
Base		
Four Sides		
Headwall Extension		
SUB TOTAL		
COLLARS		
JOINT BLOCK		
BENT		
CRADLE		
OTHER		
TOTAL		

CONCRETE RISER

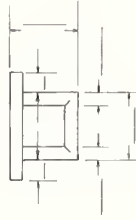
CONCRETE COLLAR

CONCRETE JOINT BLOCK

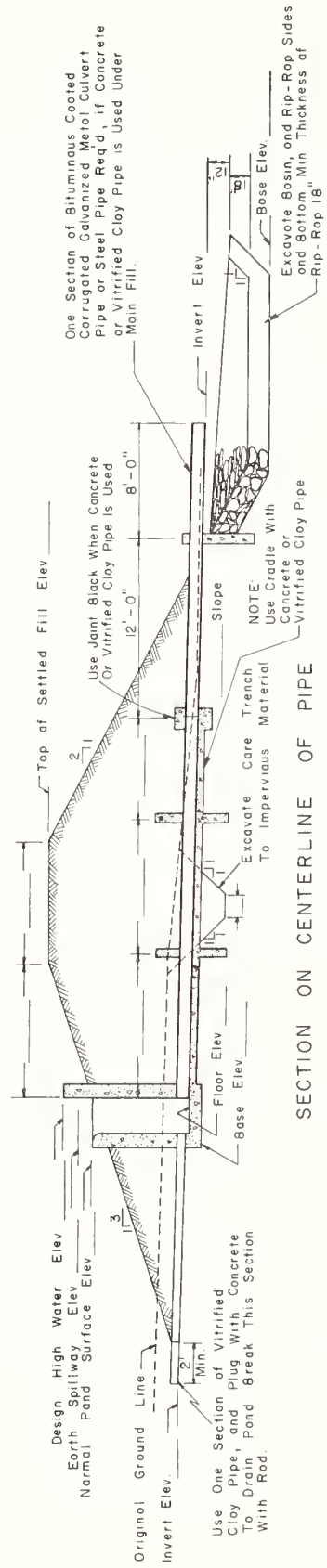
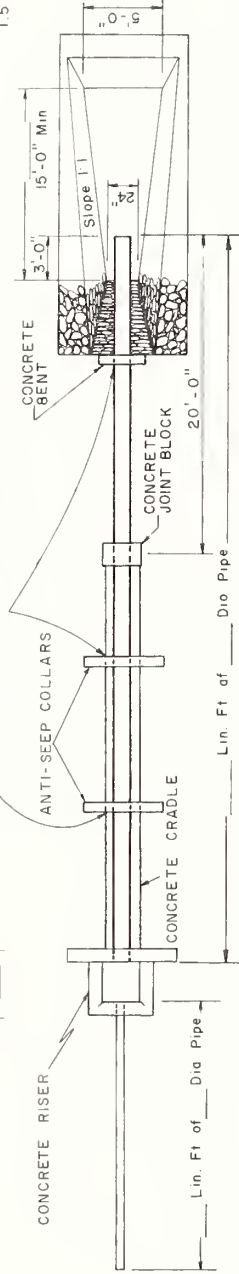
CONCRETE BENT



CONCRETE CRADLE



NOTE
 Wrap Metal Pipe With Two Layers Of Heavy
 Asphalt Saturated Roofing Felt.



SECTION ON CENTERLINE OF PIPE

Prepared By: _____
 ENGINEERING & WATERSHED PLANNING UNIT
 DESIGN SECTION
 UPPER DAREY, PENNSYLVANIA

Technical Approval for use as on Approved Pre-Design Sheet
 HEAD ENGINEERING AND WATERSHED PLANNING UNIT
 DATE 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 ASSISTANT

SOIL CONSERVATION DISTRICT

COOPERATOR
 COMPILED BY _____
 DATE _____

SHEET _____ OF _____
 Revised March, 58 APD-201

REFER TO

DROP INLET PIPE SPILLWAY

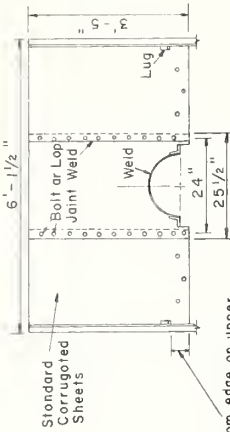
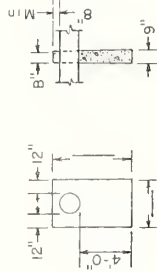
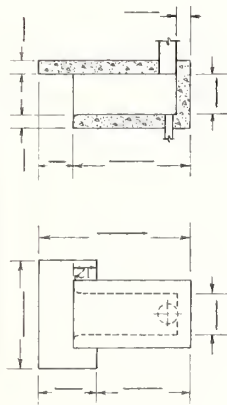
RISER : SQUARE CONCRETE BOX
 BARREL : BITUMINOUS COATED CORRUGATED METAL PIPE

CONCRETE RISER

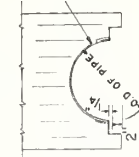
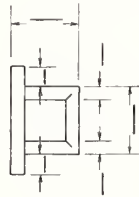
VOLUME OF CONCRETE		CU YDS
Riser		
Base		
Four Sides		
Headwall Extension		
SUB-TOTAL		
Bent		
Other		
TOTAL		

CONCRETE BENT

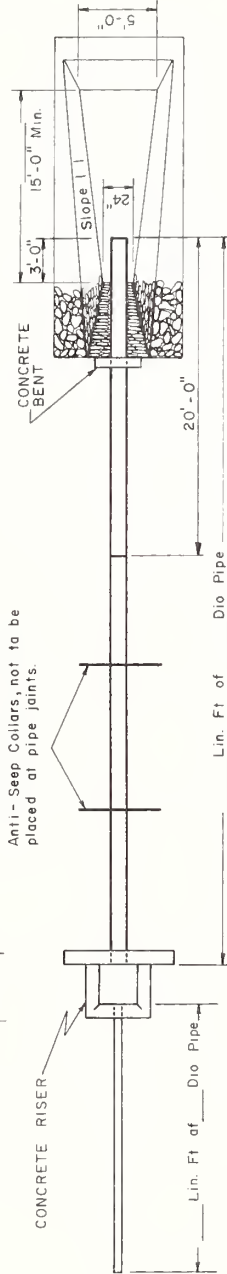
CORRUGATED ANTI-SEEP COLLAR



4 1/2" from edge on upper half of collar and 1" from edge on lower half.

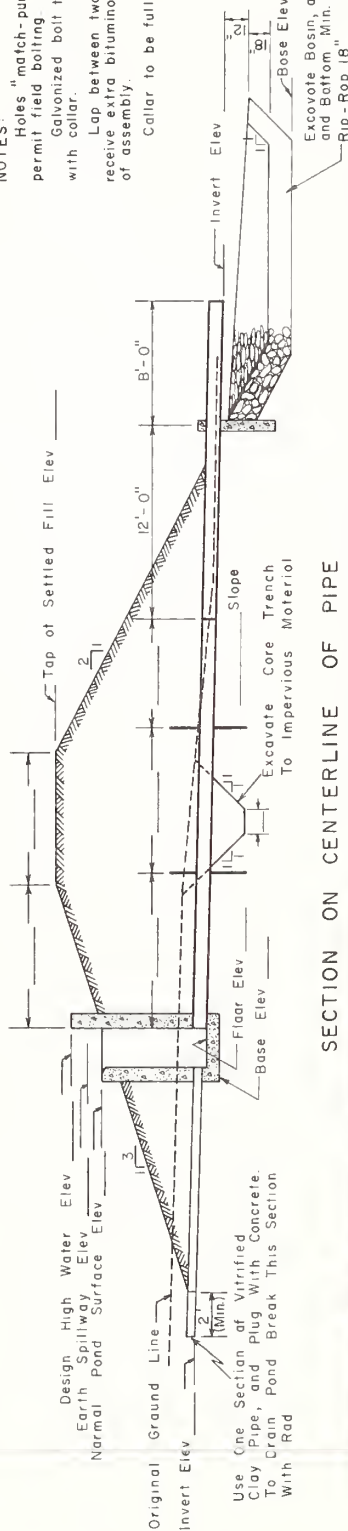


NOTE:
Use watertight coupling bonds of pipe joints
Anti-Seep Collars, not to be placed at pipe joints.



Standard Coupling Band (Optional)

NOTES:
Holes "match-punched" in shop to permit field bolting.
Galvanized bolt to be furnished with collar.
Lap between two sections to receive extra bituminous coating at time of assembly.
Collar to be fully bituminous coated.



SECTION ON CENTERLINE OF PIPE

Prepared By: ENGINEERING & WATERSHED PLANNING UNIT
 DESIGN SECTION
 UPPER DARBY, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
 COMPILED BY

DATE

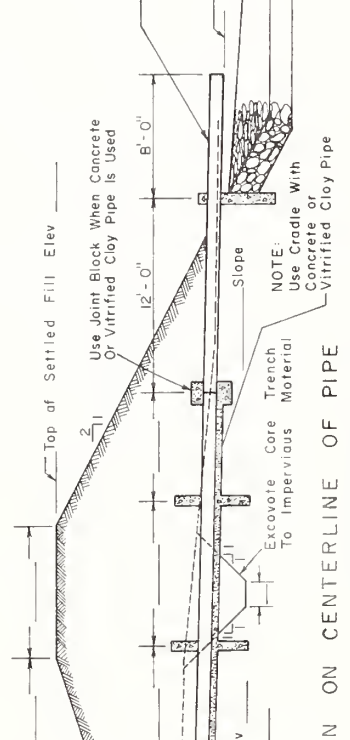
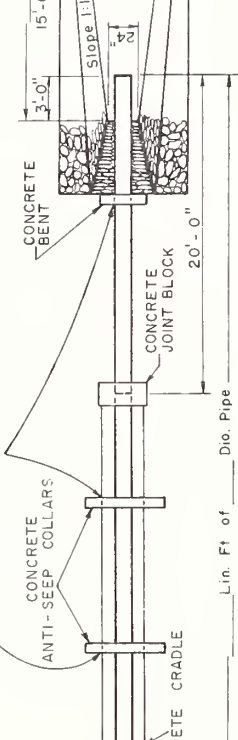
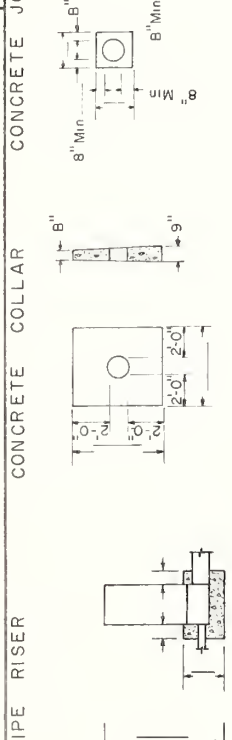
SHEET OF

REFER TO	CONCRETE, VITRIFIED CLAY PIPE RISER	CAST IRON PIPE

REFER TO
DROP INLET PIPE SPILLWAY

Technical drawings of concrete joint blocks and collars for pipe risers. The drawings include:

- CONCRETE JOINT BLOCK:**
 - Top view: A rectangular block with a central circular hole. Dimensions include a total width of 12", a hole diameter of 4"-0", and a distance of 8" Min. from the hole to the side edge.
 - Side view: A rectangular block with a height of 8" Min. and a width of B" Min.
 - End view: A rectangular block with a height of 8" Min. and a width of B" Min.
- CONCRETE COLLAR:**
 - Top view: A rectangular collar with a central circular hole. Dimensions include a total width of 12", a hole diameter of 4"-0", and a distance of 8" Min. from the hole to the side edge.
 - Side view: A rectangular collar with a height of 8" Min. and a width of B" Min.
 - End view: A rectangular collar with a height of 8" Min. and a width of B" Min.
- PIPE RISER:**
 - Top view: A rectangular riser with a central circular hole. Dimensions include a total width of 12", a hole diameter of 4"-0", and a distance of 8" Min. from the hole to the side edge.
 - Side view: A rectangular riser with a height of 8" Min. and a width of B" Min.
 - End view: A rectangular riser with a height of 8" Min. and a width of B" Min.



SECTION ON CENTERLINE OF PIPE

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR _____	COMPILED BY _____	DATE _____
------------------	-------------------	------------

100

SOIL CONSERVATION DISTRICT

REFER TO

DROP INLET PIPE SPILLWAY

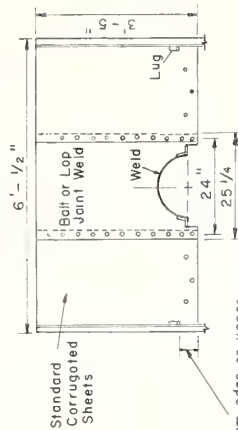
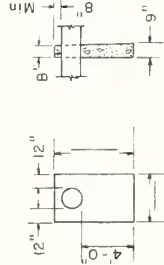
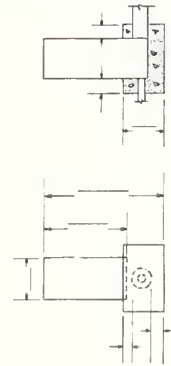
CONCRETE, VITRIFIED CLAY, CAST IRON,
RISER: WROUGHT IRON, OR STEEL PIPE
BARREL: BITUMINOUS COATED
CORRUGATED METAL PIPE

CORRUGATED ANTI-SEEP COLLAR

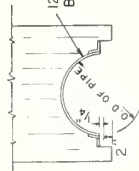
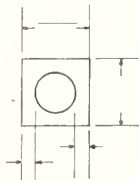
VOLUME OF CONCRETE		CU YDS
ITEM		
RISE	JUNCTION BOX	
BENT		
OTHER		
TOTAL		

PIPE RISER

CONCRETE BENT



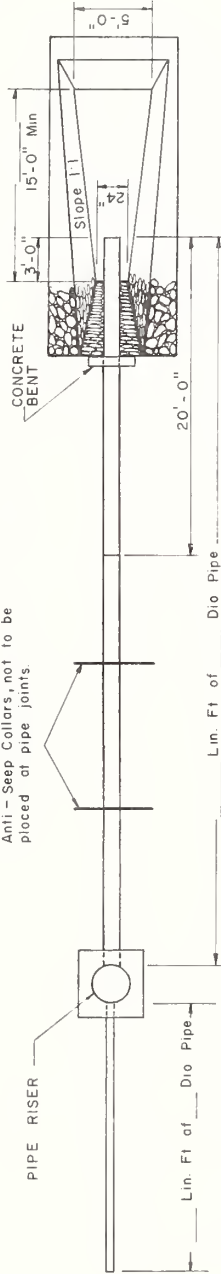
4 1/2" from edge on upper half of collar and 1" from edge on lower half.



NOTE =

Use watertight coupling bands at pipe joints.

Anti-Seep Collars, not to be placed at pipe joints.



Standard Coupling Band (Optional)

NOTES:

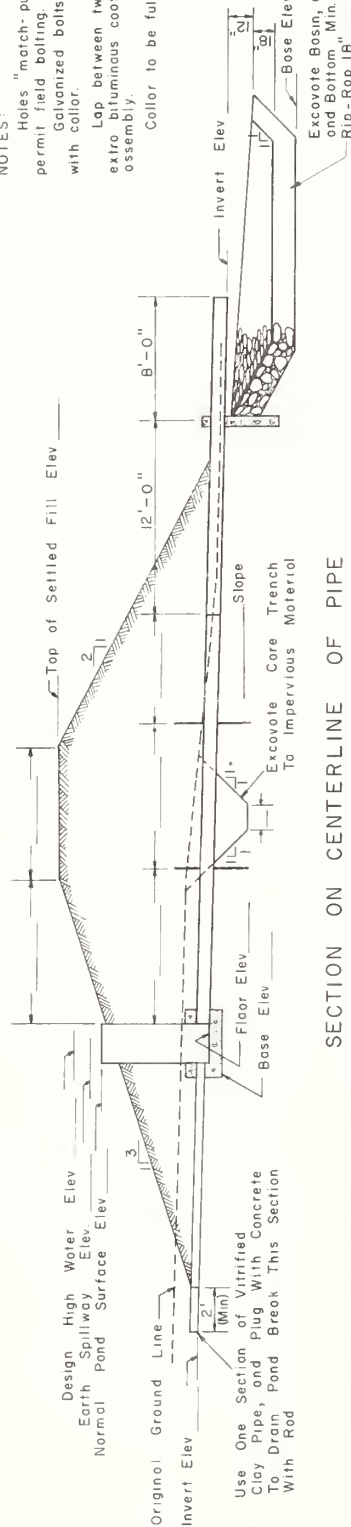
Holes "match-punched" in shop to permit field bolting

Galvanized bolts to be furnished with collar.

Lap between two sections to receive extra bituminous coating at time of assembly.

Collar to be fully bituminous coated.

SECTION ON CENTERLINE OF PIPE



Prepared By: _____
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use as
an Approved Pre-Design Sheet
[Signature]
HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE 9-18-59

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED B

SHEET _____ OF _____

REFER TO

DROP INLET PIPE SPILLWAY

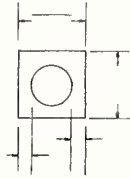
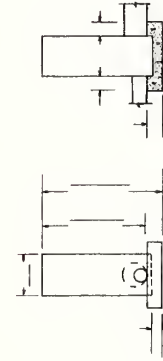
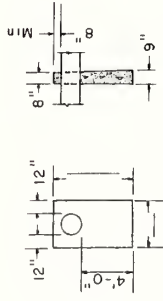
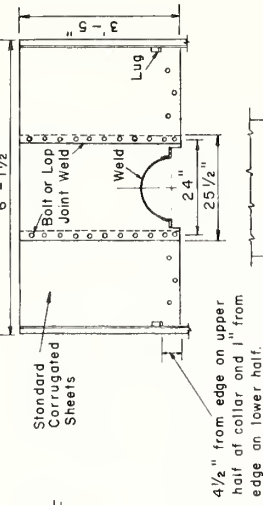
RISER: BITUMINOUS COATED METAL PIPE
BARREL: BITUMINOUS COATED CORRUGATED METAL PIPE

CORRUGATED ANTI-SEEP COLLAR

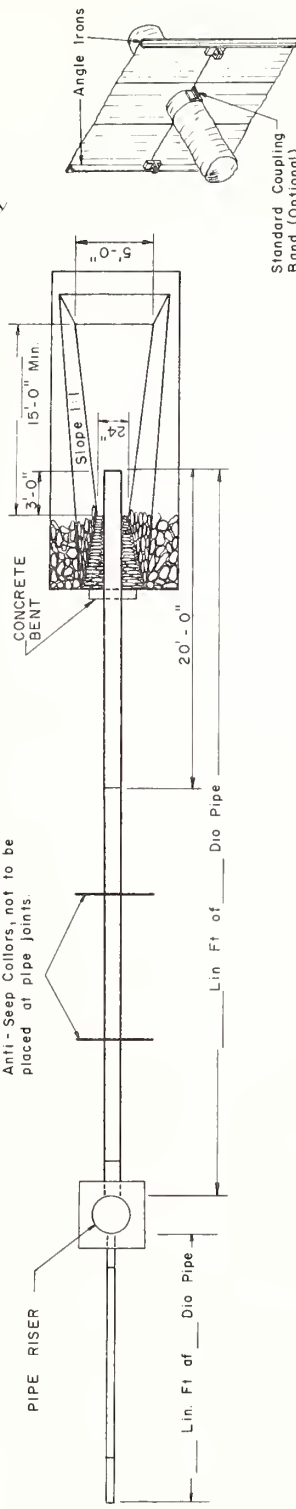
VOLUME OF CONCRETE	
ITEM	CU YDS
RISER FOUNDATION	
BENT	
OTHER	
TOTAL	

CONCRETE BENT

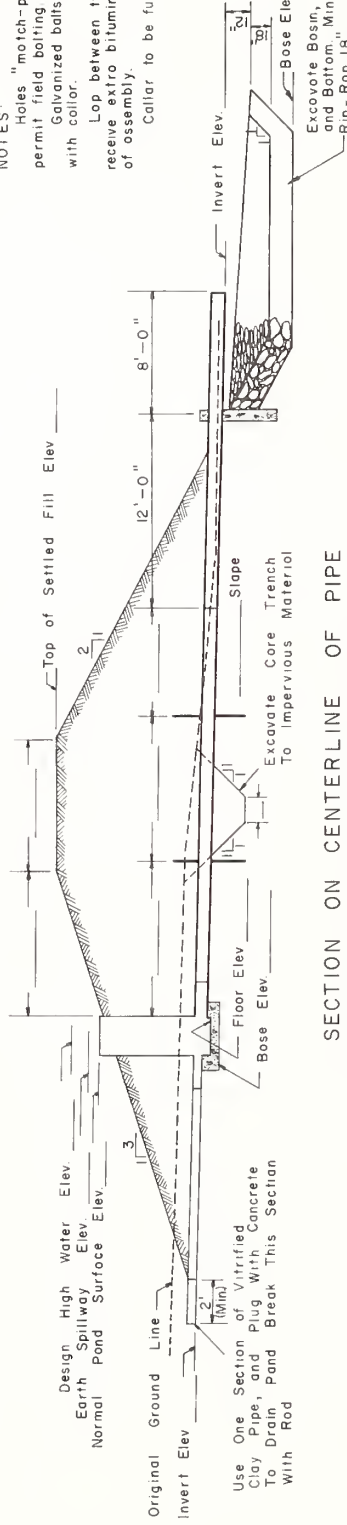
PIPE RISER



NOTE:
Use watertight coupling bonds of pipe joints.
Anti-Seep Collars, not to be placed at pipe joints.



NOTES:
Holes "match-punched" in shop to permit field bolting.
Galvanized bolts to be furnished with collar.
Lap between two sections to receive extra bituminous coating at time of assembly.
Collar to be fully bituminous coated.



SECTION ON CENTERLINE OF PIPE

Prepared By: ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA
DATE 4-10-59

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

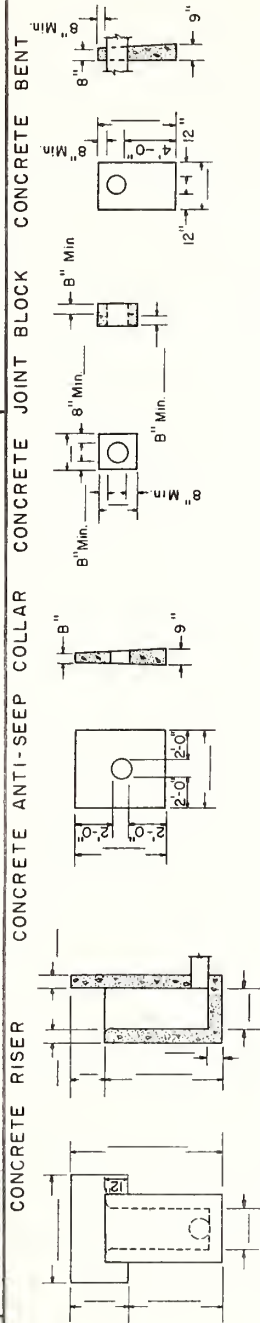
DATE

SHEET

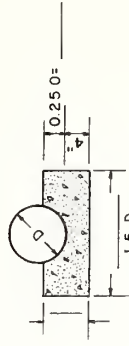
REFER TO

DROP INLET PIPE SPILLWAY

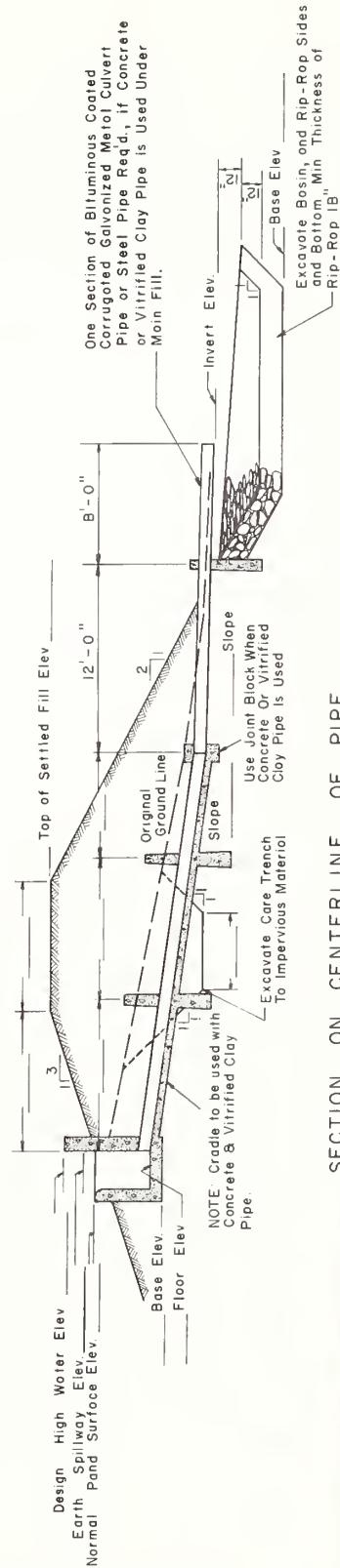
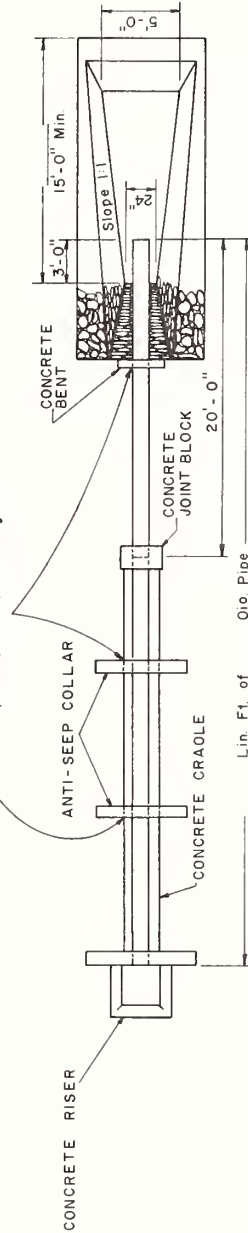
RISE: SQUARE CONCRETE BOX
BARREL-CONCRETE, VITRIFIED CLAY, CAST IRON
WROUGHT IRON, OR STEEL PIPE



CONCRETE CRADLE



NOTE:
Wrap Metal Pipe With Two Layers Of Heavy
Asphalt Saturated Roofing Felt.



One Section of Bituminous Coated
Corrugated Galvanized Metal Culvert
Pipe or Steel Pipe Req'd., if Concrete
or Vitrified Clay Pipe is Used Under
Main Fill.

NOTE: Cradle to be used with
Concrete & Vitrified Clay
Pipe.
Use Joint Block When
Concrete Or Vitrified
Clay Pipe is Used

SECTION ON CENTERLINE OF PIPE

VOLUME OF CONCRETE		CU YDS
ITEM		
RISE		
Base		
Four Sides		
Headwall Extension		
SUB-TOTAL		
COLLARS		
JOINT BLOCK		
BENT		
CRADLE		
OTHER		
TOTAL		

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

SHEET OF
Revised March, 58 APD-206

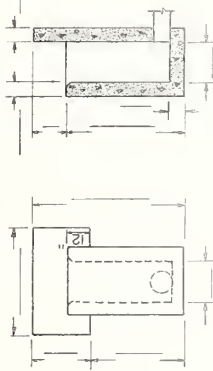
REFER TO

DROP INLET PIPE SPILLWAY

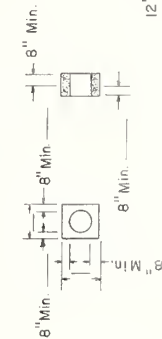
RISER : SQUARE CONCRETE BOX
BARREL - BITUMINOUS COATED
CORRUGATED METAL PIPE

VOLUME OF CONCRETE		CU YDS
ITEM		
RISER		
Base		
Four Sides		
Headwall Extension		
SUB-TOTAL		
BENT		
OTHER		
TOTAL		

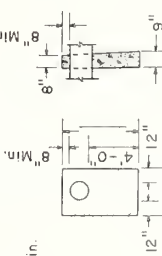
CONCRETE RISER



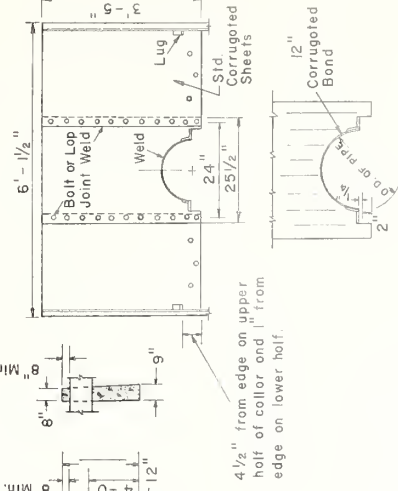
CONCRETE JOINT BLOCK



BENT

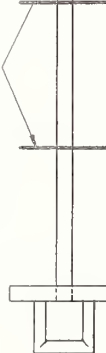


ANTI-SEEP COLLAR



NOTE:
Use watertight coupling bonds of pipe joints.
Anti-Seep Collars, not to be
placed of pipe joints.

CONCRETE RISER



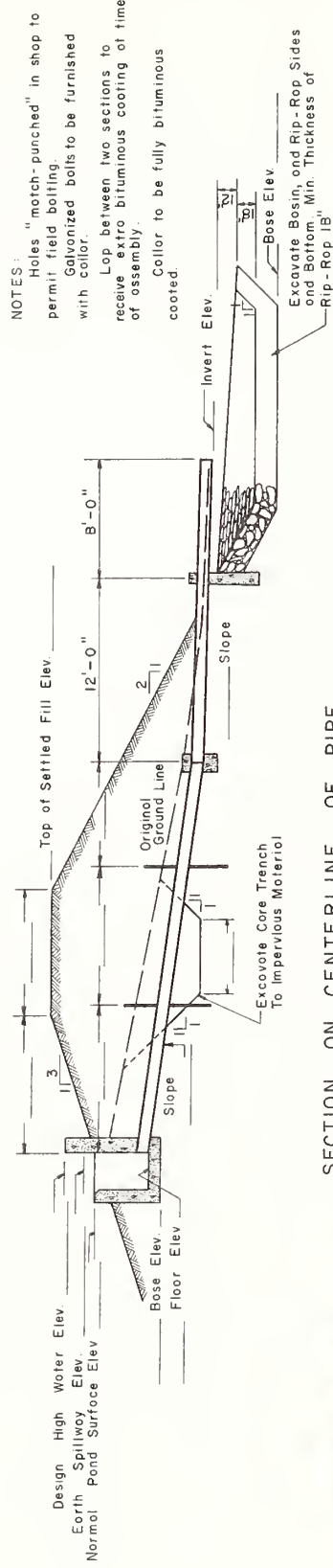
CONCRETE JOINT BLOCK



CONCRETE BENT



Lin. Ft of Dia. Pipe



NOTES:
Holes "notch-punched" in shop to permit field bolting.
Galvanized bolts to be furnished with collar.
Lap between two sections to receive extra bituminous coating of time of assembly.
Collar to be fully bituminous coated

SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

SHEET

OF

Revised March, 58

REFER TO:

DROP INLET PIPE SPILLWAY (WATER SURFACE CONTROL DEVICE)

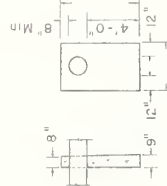
RISER: SQUARE CONCRETE BOX WITH
FLASH BOARDS.
BARREL: BITUMINOUS COATED CORRUGATED
METAL PIPE

VOLUME OF CONCRETE		Quantity Cu. Yds.
ITEM		
RISER		
Sides		
Headwall Extension		
SUB TOTAL		
BENT		
OTHER		
TOTAL		

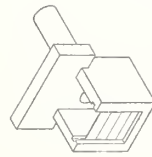
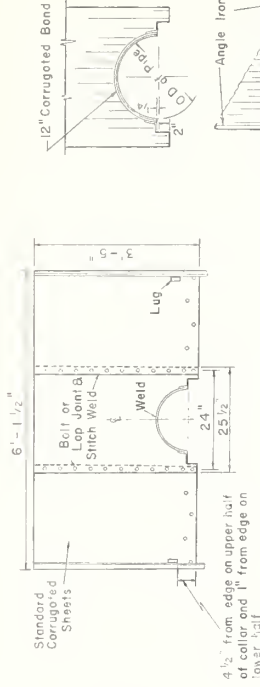
CONCRETE RISER



CONCRETE BENT



ANTI-SLEEP COLLAR

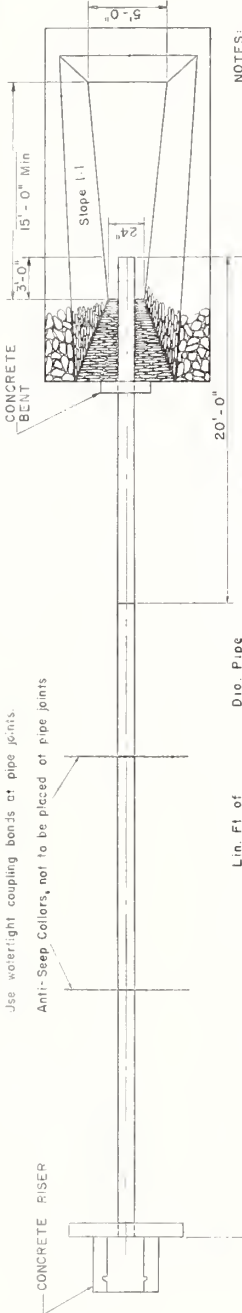


Use 2' x 4' or 2' x 6' Flash
Boards For Controlling
Water Depth.

* JTE.

Use watertight coupling bonds at pipe joints.

Anti-Sleep Collars, not to be placed at pipe joints



Lin. Ft. of

Dia. Pipe

20'-0"

3'-0"

15'-0" Min

Slope 1:1

2'-4"

5'-0"

Standard Coupling Bond (Optional)

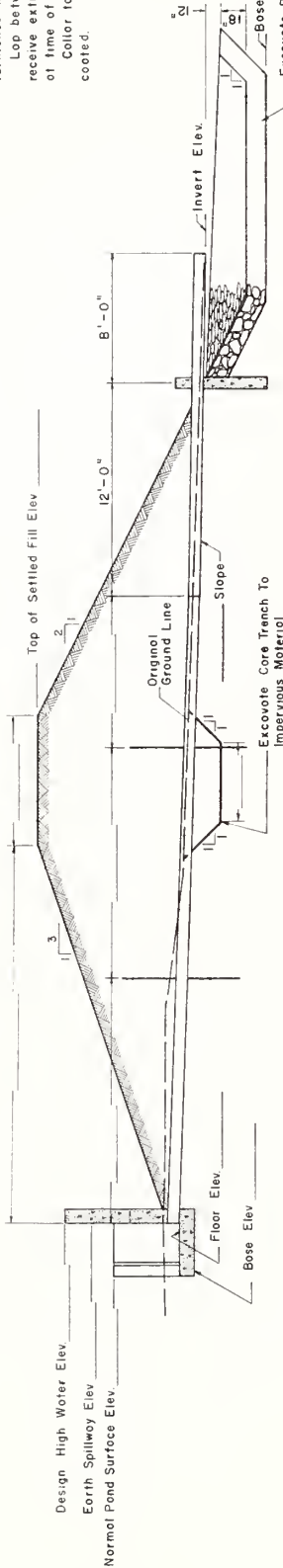
Angle Irons

12" Corrugated Bend

Angle Iron, optional.
If required, place on both
vertical sides of collar.

Notes:

- Holes "match punched" in shop to permit field bolting
- Galvanized bolts to be furnished with collar.
- Lap between two sections to receive extra bituminous coating of time of assembly
- Collar to be fully bituminous coated.



SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use
as on Approved Pre-Design Sheet
HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE 9-18-58

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

SHEET OF

REFER TO

DROP INLET PIPE SPILLWAY

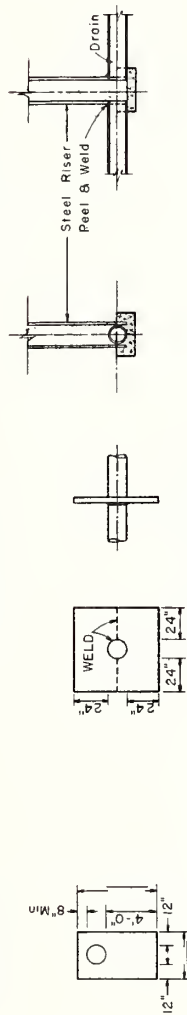
RISE:	STEEL PIPE
BARREL:	STEEL PIPE

VOLUME OF CONCRETE		Quantity Cu Yds
	ITEM	
BENT		
OTHER		
TOTAL		

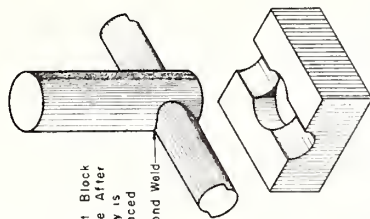
CONCRETE BENT

ANTI-SEEP COLLAR

PIPE RISE..

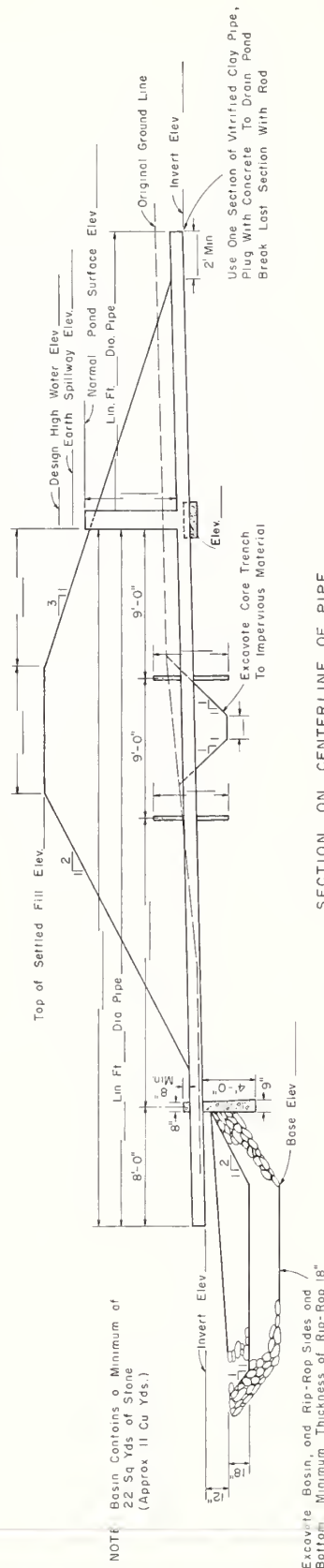


NOTE: Construct Anti-Seep Collar in two sections









NOTE: Support Block is Cost in Place After Riser Assembly is Welded and Placed

DIAGRAM SHOWING RISER ASSEMBLY
AND ITS SUPPORT BLOCK



Excavate Basin, and Rip-Rop Sides and Bottom Minimum Thickness of Rip-Rop 18"

SECTION ON CENTERLINE OF PIPE

Prepared By:	Technical Approval for use as a Standard Drawing
ENGINEERING & WATERSHED PLANNING UNIT DESIGN SECTION	<div style="text-align: center;">  </div>
UPPER DARRY, PENNSYLVANIA	<div style="text-align: center;">  </div>
	<div style="text-align: center;">  </div>
	<div style="text-align: center;">  </div>
	<div style="text-align: center;">  </div>
	<div style="text-align: center;">  </div>

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

SHEET OF

REFER TO

DROP INLET PIPE SPILLWAY

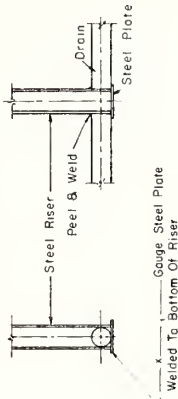
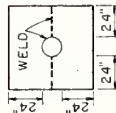
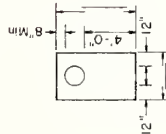
RISER: STEEL PIPE
BARREL: STEEL PIPE

CONCRETE BENT

STEEL ANTI-SEEP COLLAR

PIPE RISER

VOLUME OF CONCRETE	
ITEM	Quantity Cu Yds.
BENT	
OTHER	
TOTAL	



NOTE Construct Anti-Seep Collar in two sections
NOTE Concrete Collar may be substituted for Steel Collar

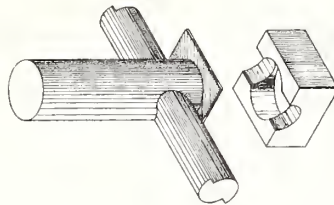
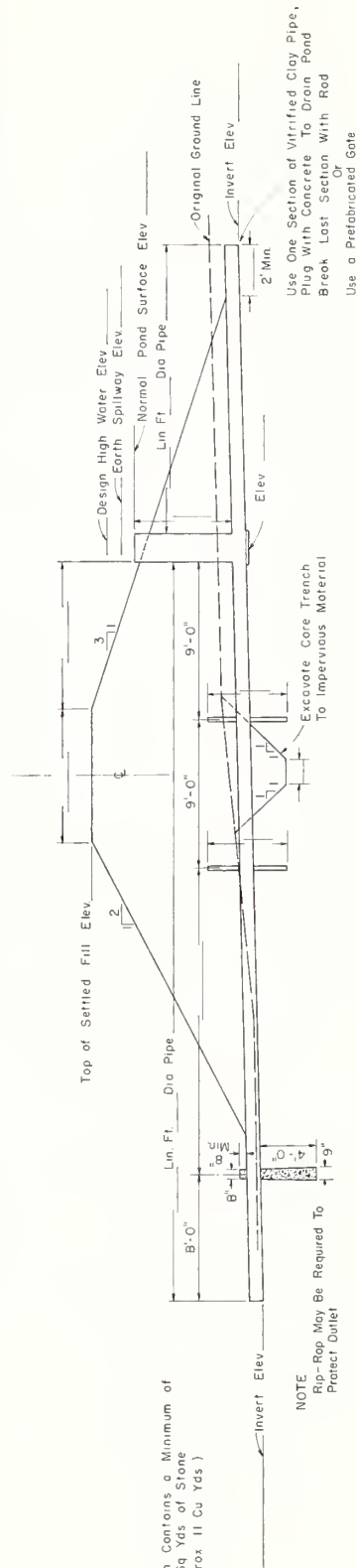
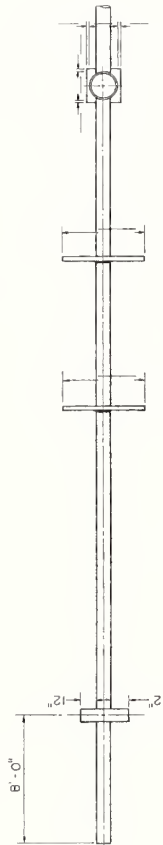


DIAGRAM SHOWING RISER ASSEMBLY AND ALTERNATE SUPPORT BLOCK



NOTE Basin Contains a Minimum of 22 Sq Yds of Stone (Approx 11 Cu Yds)

NOTE Rip-Rap May Be Required To Protect Outlet

SECTION ON CENTERLINE OF PIPE

Prepared By: ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use as an Approved Pre-Design Sheet
HEAD ENGINEERING AND WATERSHED PLANNING UNIT
DATE: Dec 3, 1956

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

SHEET OF

REFER TO

DROP INLET PIPE SPILLWAY

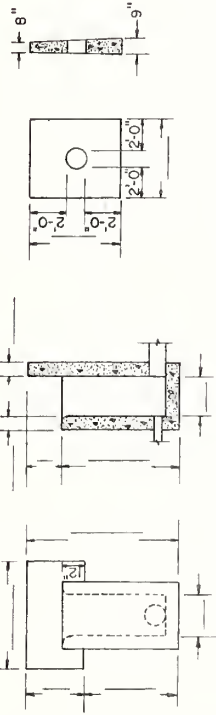
RISER: SQUARE CONCRETE BOX
BARREL, CONCRETE, VITRIFIED CLAY, CAST IRON,
WROUGHT IRON, OR STEEL PIPE

VOLUME OF CONCRETE		CU YDS.
ITEM		
RISER		
Base		
Four Sides		
Headwall Extension		
SUB TOTAL		
COLLARS		
JOINT BLDCK		
CRADLE		
OTHER		
TOTAL		

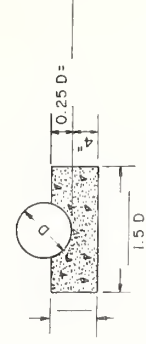
CONCRETE RISER

CONCRETE COLLAR

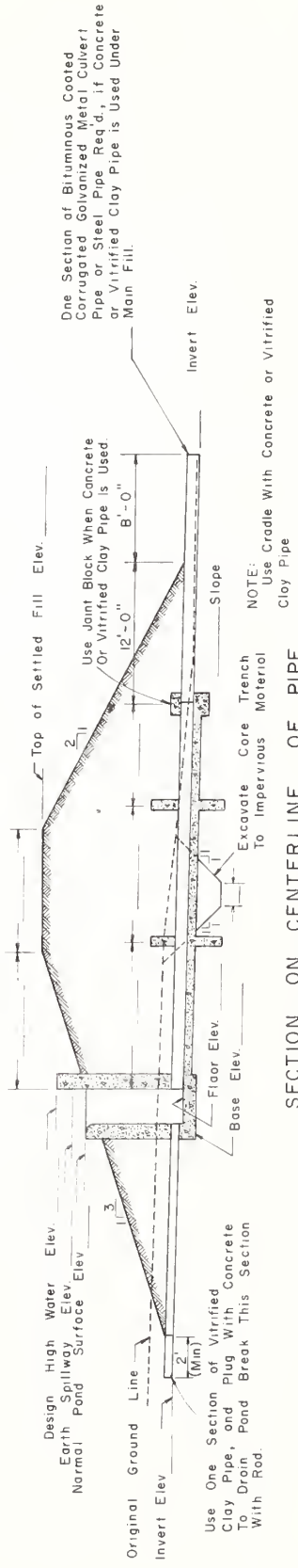
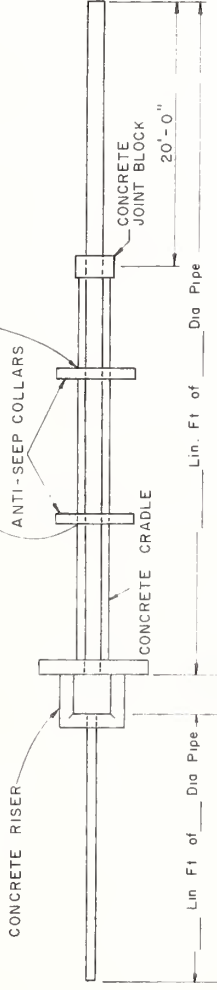
CONCRETE JOINT BLOCK



CONCRETE CRADLE



NOTE
Wrap Metal Pipe With Two Layers Of Heavy
Asphalt Saturated Roofing Felt.



SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

SHEET OF

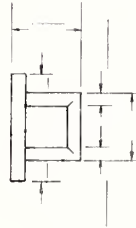
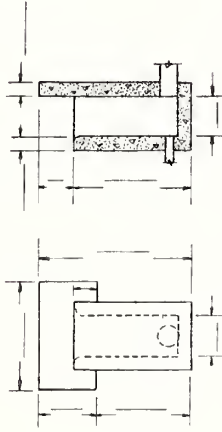
REFER TO

DROP INLET PIPE SPILLWAY

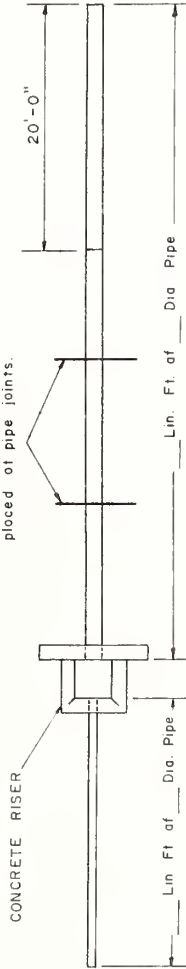
RISER SQUARE CONCRETE BOX
BARREL BITUMINOUS COATED
CORRUGATED METAL PIPE

CONCRETE RISER

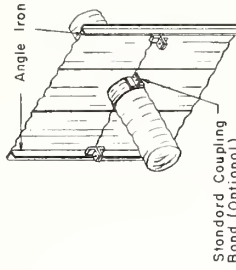
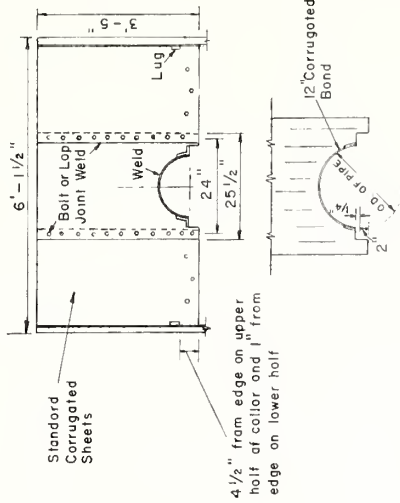
VOLUME OF CONCRETE		CU YDS.
ITEM		
RISER		
Base		
Four Sides		
Headwall Extension		
SUB-TOTAL		
OTHER		
TOTAL		



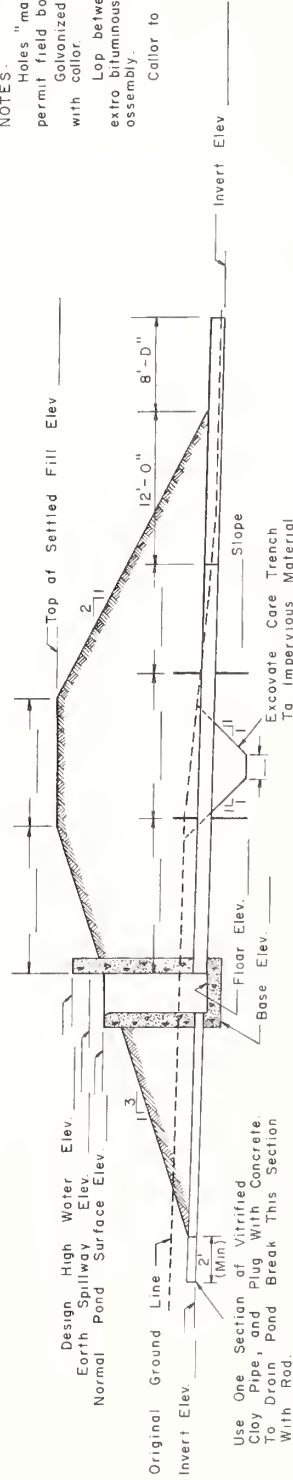
NOTE:
Use watertight coupling bands at pipe joints.
Anti-Seep Callors, not to be placed at pipe joints.



CORRUGATED ANTI-SEEP COLLAR



NOTES:
Holes "match-punched" in shop to permit field bolting.
Galvanized bolt to be furnished with collar.
Lap between two sections to receive extra bituminous coating of time of assembly.
Collar to be fully bituminous coated



Use One Section of Vitrified Clay Pipe, and Plug With Concrete To Drain Pond Break This Section With Rod.

SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use as on Approved Pre-Design Sheet
HEAD ENGINEERING AND WATERSHED PLANNING UNIT
DATE 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR

COMPILED BY

DATE

SHEET OF

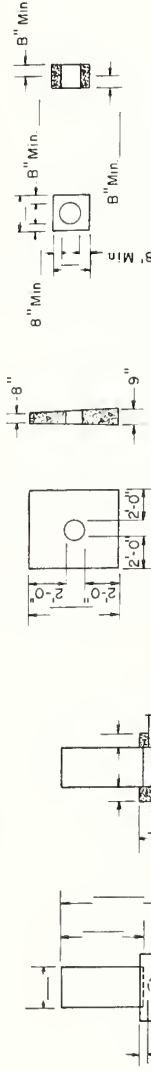
REFER TO

DROP INLET PIPE SPILLWAY

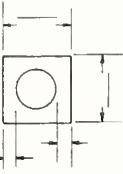
CONCRETE, VITRIFIED CLAY, CAST IRON
WROUGHT IRON, OR STEEL PIPE
CONCRETE, VITRIFIED CLAY, CAST IRON
BARREL WROUGHT IRON, OR STEEL PIPE

PIPE RISER
CONCRETE COLLAR
CONCRETE JOINT BLOCK

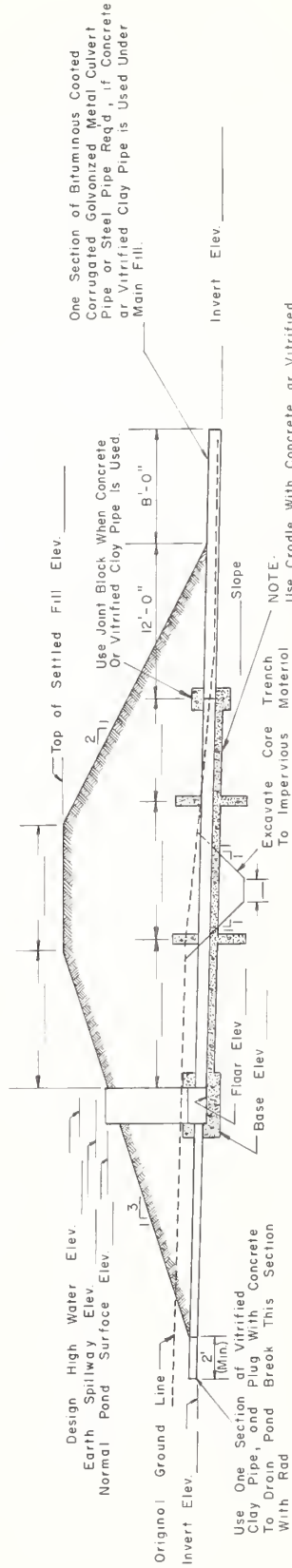
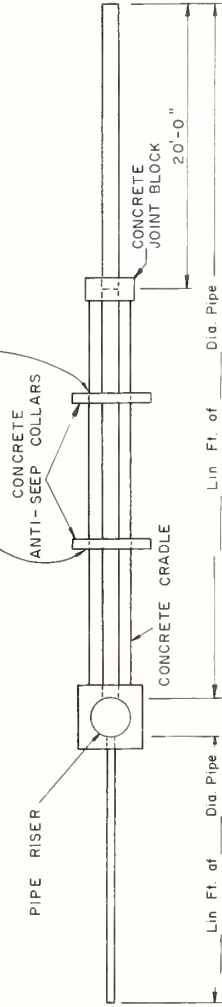
VOLUME OF CONCRETE	
ITEM	CU YDS
Riser Junction Box	
Anti-Seep Collars	
Joint Block	
Cradle	
Other	
TOTAL	



CONCRETE CRADLE



NOTE:
Wrap Metal Pipe With Two Layers Of Heavy
Asphalt Saturated Roofing Felt.



SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY
DATE
SHEET OF

REFER TO

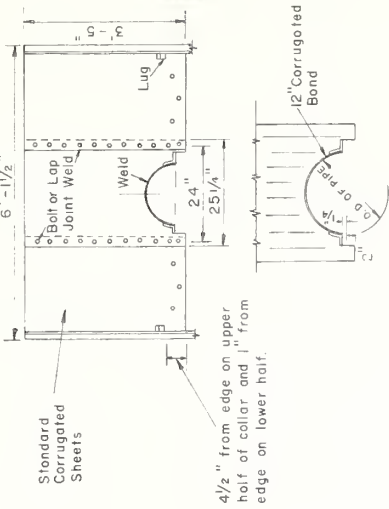
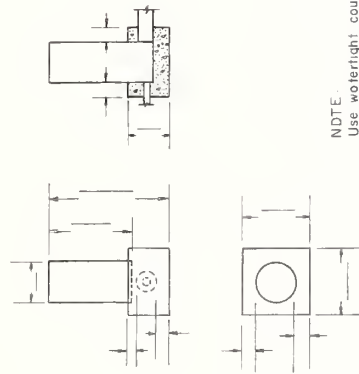
DROP INLET PIPE SPILLWAY

CONCRETE, VITRIFIED CLAY, CAST IRON,
RISER: WROUGHT IRON, OR STEEL PIPE
BARREL: BITUMINOUS COATED
CORRUGATED METAL PIPE

CORRUGATED ANTI-SEEP COLLAR

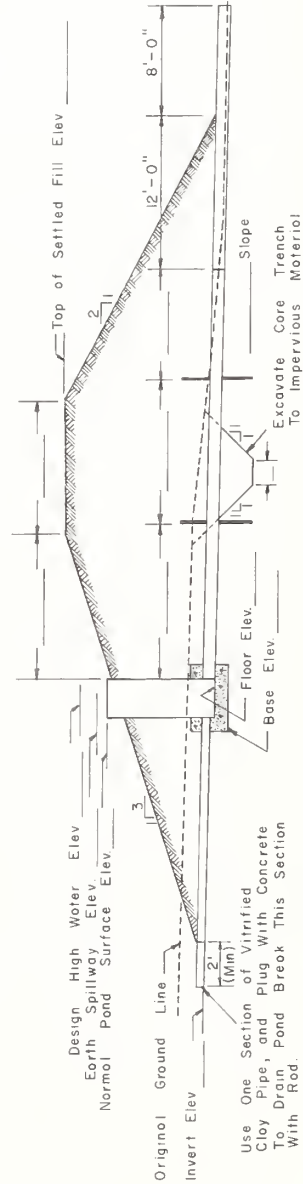
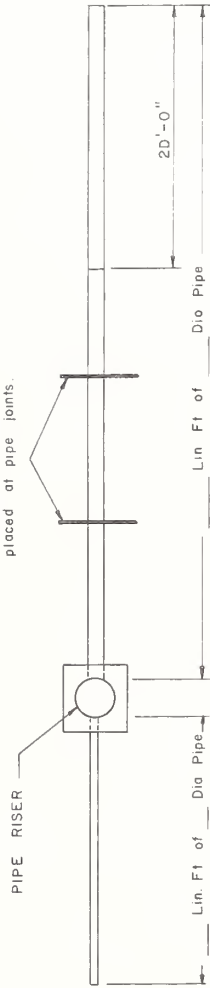
VOLUME OF CONCRETE	
ITEM	CU. YDS.
RISER JUNCTION BOX	
OTHER	
TOTAL	

PIPE RISER



NOTE:
Use watertight coupling bonds of pipe joints.

Anti-Seep Collars, not to be placed at pipe joints.



SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use as
an Approved Pre-Design Sheet
[Signature]
HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY
DATE
SHEET OF
APD-214

Standard Coupling
Bond (Optional)

NOTES:
Holes "match-punched" in shop to permit field bolting.
Galvanized bolts to be furnished with collar.
Lap between two sections to receive extra bituminous coating at time of assembly.
Collar to be fully bituminous coated.

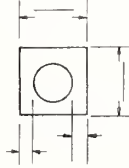
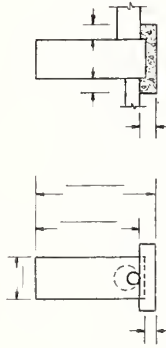
REFER TO

DROP INLET PIPE SPILLWAY

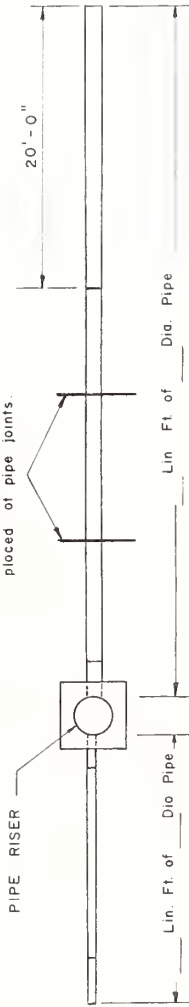
RISER: BITUMINOUS COATED PIPE
 CORRUGATED METAL PIPE
 BARREL: BITUMINOUS COATED
 CORRUGATED METAL PIPE

VOLUME OF CONCRETE	
ITEM	CUYDS
RISER FOUNDATION	
OTHER	
TOTAL	

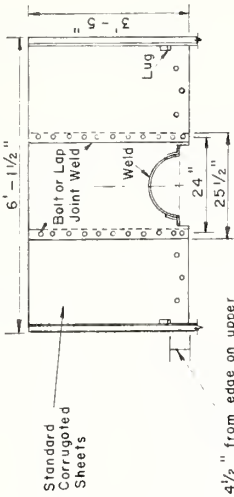
PIPE RISER



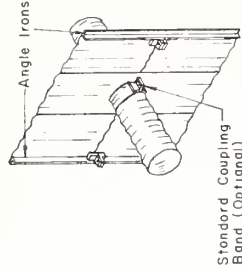
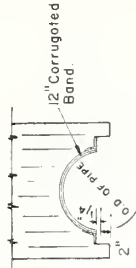
NOTE:
 Use watertight coupling bonds at pipe joints.
 Anti-Seep Collars, not to be placed at pipe joints.



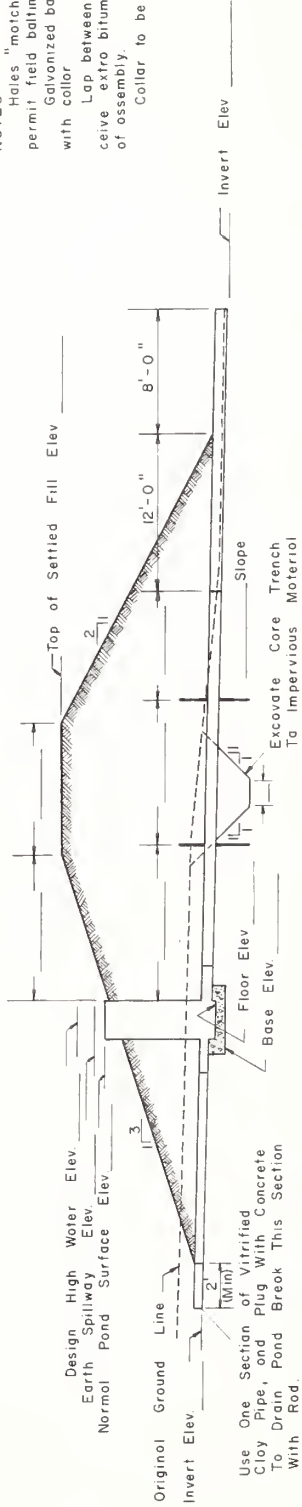
CORRUGATED ANTI-SEEP COLLAR
 6'-11 1/2"



4 1/2" from edge on upper half of collar and 1" from edge on lower half.



NOTES:
 Holes "match-punched" in shap to permit field bolting.
 Galvanized bolts to be furnished with collar.
 Lap between two sections to receive extra bituminous coating at time of assembly.
 Collar to be fully bituminous coated



SECTION ON CENTERLINE OF PIPE

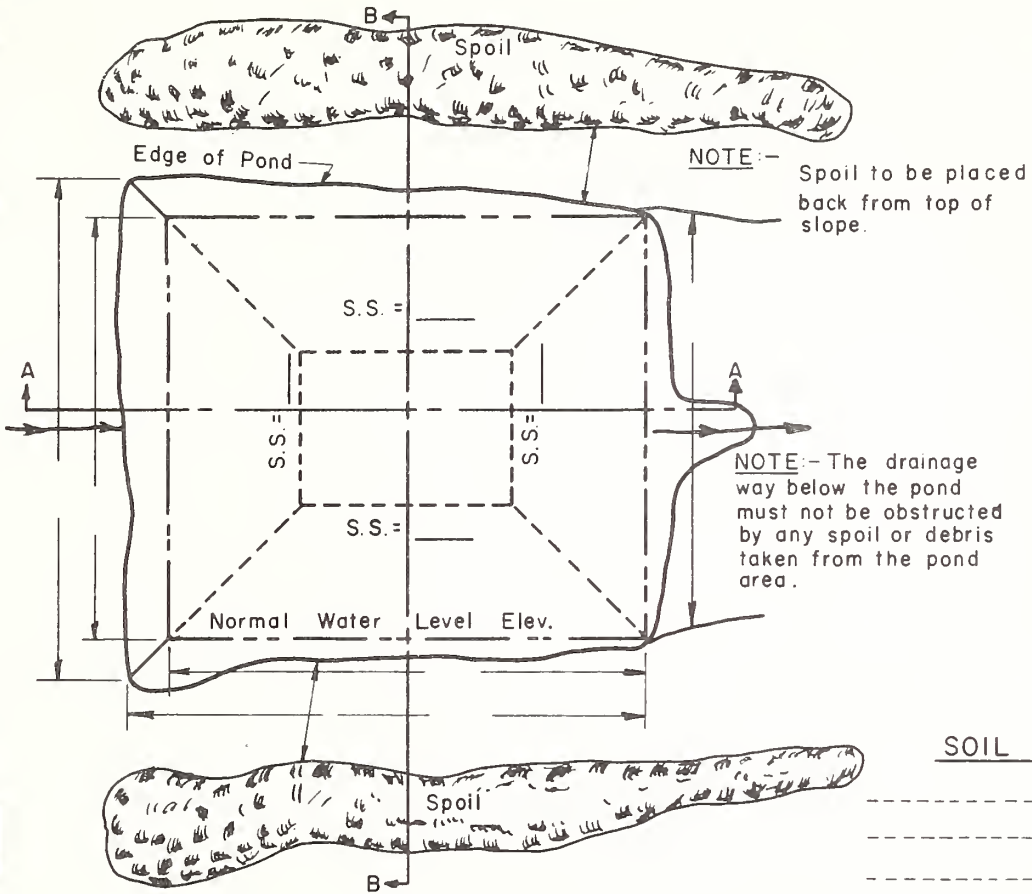
Prepared By: APD
 ENGINEERING & WATERSHED PLANNING UNIT
 DESIGN SECTION
 UPPER DARBY, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

SOIL CONSERVATION DISTRICT

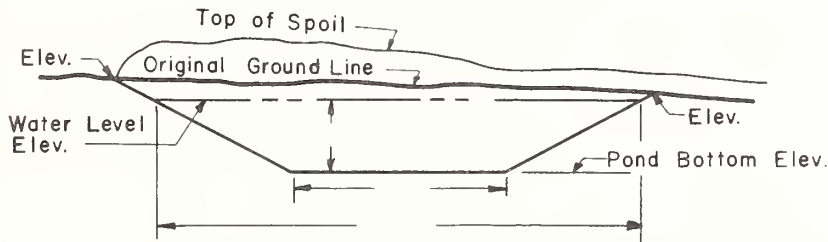
COOPERATOR _____
 COMPILED BY _____
 DATE _____
 SHEET _____ OF _____

WORK SHEET FOR DUGOUT PONDS



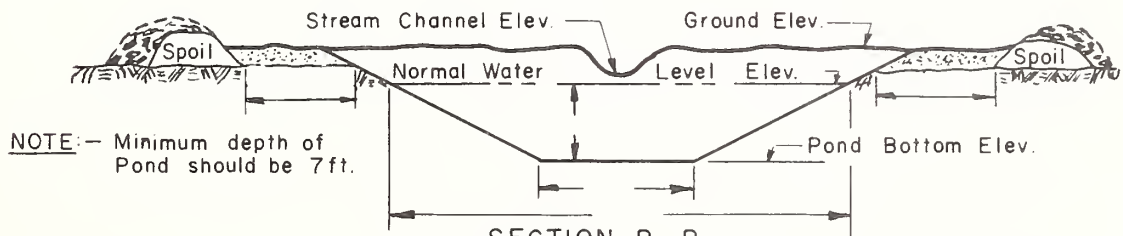
PLAN

SOIL BORINGS



SECTION A-A

QUANTITIES



SECTION B-B

TECHNICAL APPROVAL FOR USE AS A FORM *Roller* HEAD, E & WP UNIT.

REFERENCE

L-III2
ESNE-17

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Prepared By:

ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION UPPER DARBY PENNSYLVANIA

DRAWING NO

APD-216

SHEET 1 OF 1

DATE 14 March 56

REFER TO

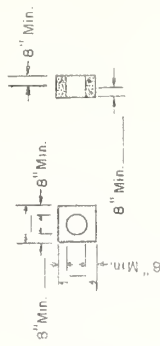
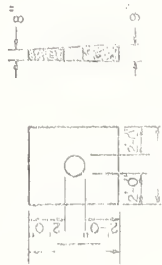
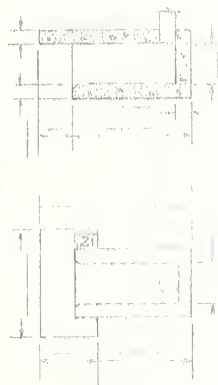
DROP INLET PIPE SPILLWAY

RISER: SQUARE CONCRETE BOX
BARREL: CONCRETE, VITRIFIED CLAY, CAST IRON,
WROUGHT IRON, OR STEEL PIPE

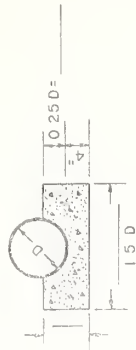
CONCRETE ANTI-SEEP COLLAR

CONCRETE JOINT BLOCK

VOLUME OF CONCRETE		CU YDS.
ITEM		
RISER		
Edge		
Four Sides		
Headwall Extends on		
SUB-TOTAL		
JOINT BLOCK		
CRADLE		
TOTAL		



CONCRETE CRADLE

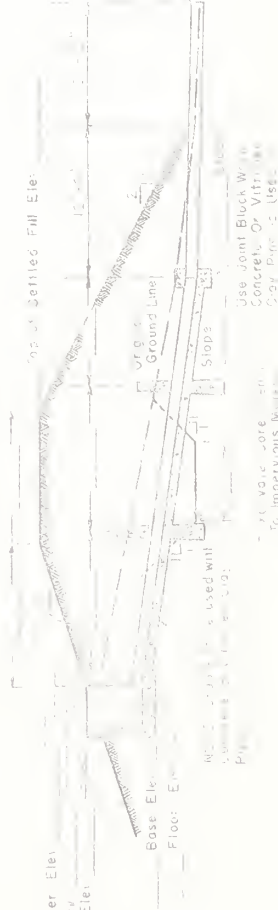


Drop Inlet Pipe With Two Layers
Asphalt Saturated Rolling Self.

CONCRETE RISER



One Section of Bituminous Coated
Corrugated Galvanized Metal Culvert
Pipe or Steel Pipe Req'd, If Concrete
or Vitrified Clay Pipe is Used Under
Main Fill



SECTION ON CENTERLINE OF PIPE

Technical Approval
on Approved Pre-Design
HEAD ENGINEERING ARCHITECT
WATERSHED PLANNING UNIT
DATE 9-18-59

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTANT

SOIL CONSERVATION DISTRICT

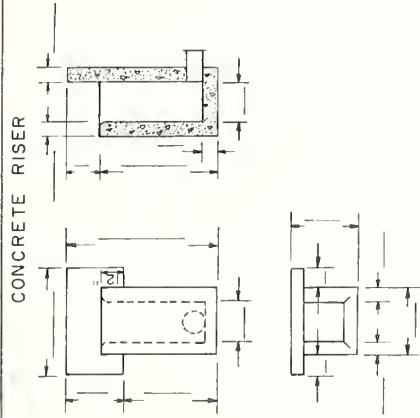
COOPERATOR
COMPILED BY

DATE

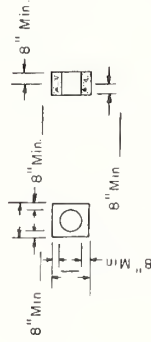
SHEET OF

RISER: SQUARE CONCRETE BOX
BARREL: BITUMINOUS COATED CORRUGATED METAL

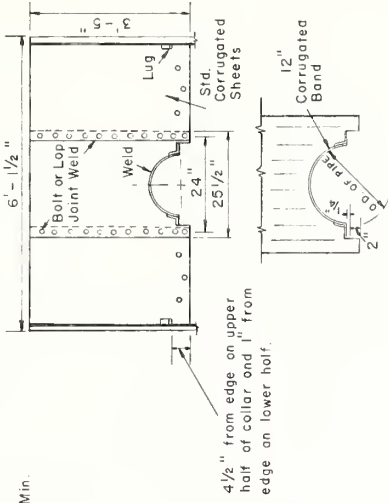
VOLUME OF CONCRETE		CU YDS
ITEM		
RISER		
Bose		
Four Sides		
Headwall		
Extension		
SUB-TOTAL		
OTHER		
TOTAL		



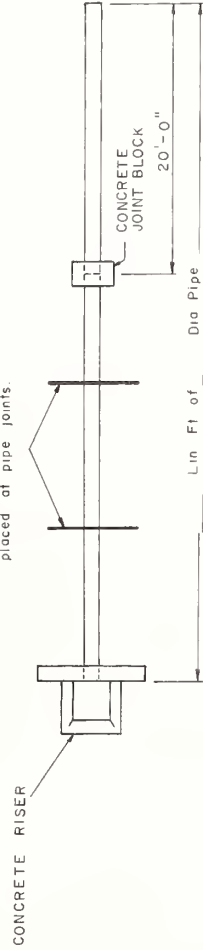
CONCRETE JOINT BLOCK



CORRUGATED ANTI-SEEP COLLAR

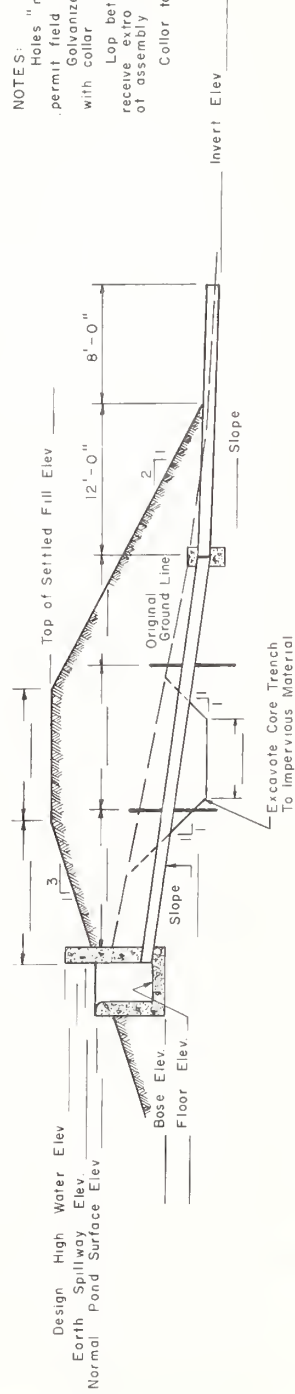


NOTE
Use watertight coupling bands of pipe joints.
Anti-Seep Collars, not to be placed at pipe joints.



NOTES:

- Holes "match-punched" in shop to permit field bolting
- Galvanized bolts to be furnished with collar
- Lap between two sections to receive extra bituminous coating at time of assembly
- Collar to be fully bituminous coated



SECTION ON CENTERLINE OF PIPE

Prepared By:	Technical Approval for use as an Approved Pre-Design Sheet
ENGINEERING & WATERSHED PLANNING UNIT	<i>[Signature]</i>
DESIGN SECTION	HEAD ENGINEERING AND WATERSHED PLANNING UNIT
UPPER DARBY, PENNSYLVANIA	DATE 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED B

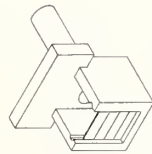
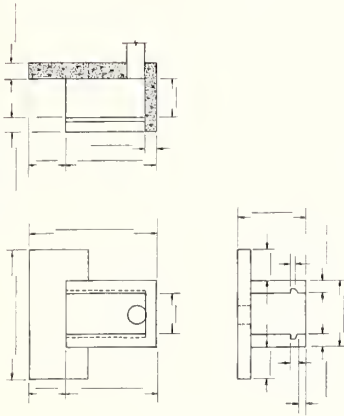
REFER TO:

DROP INLET PIPE SPILLWAY (WATER SURFACE CONTROL DEVICE)

RISER: SQUARE CONCRETE BOX WITH
FLASH BOARDS.
BITUMINOUS COATED CORRUGATED
METAL PIPE

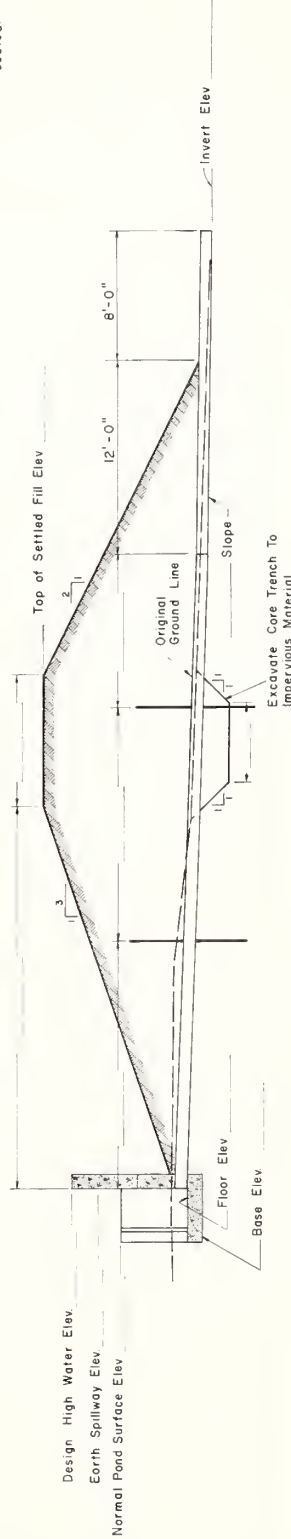
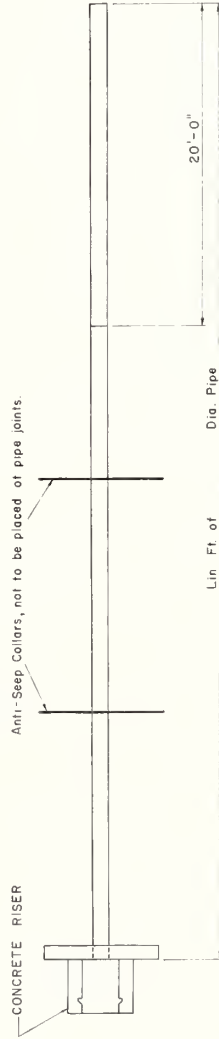
VOLUME OF CONCRETE	
ITEM	Quantity Cu Yds.
RISER	
Base	
Sides	
Headwall Extension	
OTHER	
SUB TOTAL	
TOTAL	

CONCRETE RISER



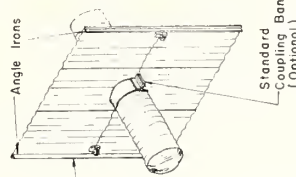
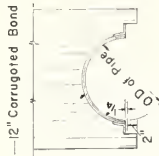
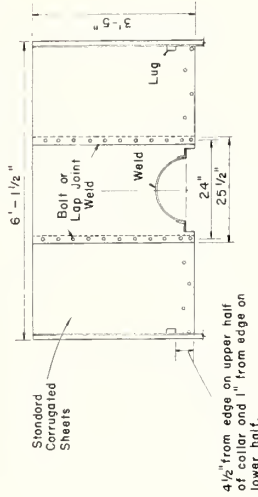
Use 2"x4" or 2"x6" Flash
Boards For Controlling
Water Depth

NOTE:
Use watertight coupling bands at pipe joints.
Anti-Seep Collars, not to be placed at pipe joints.



SECTION ON CENTERLINE OF PIPE

CORRUGATED ANTI-SEEP COLLAR



Angle Iron, optional.
If required, place on both
vertical sides of collar

NOTES:
Holes "match punched" in shop
to permit field bolting.
Galvanized bolts to be furnished
with collar.
Lap between two sections to
receive extra bituminous coating
at time of assembly.
Collar to be fully bituminous
coated.

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use
as an Approved Pre-Design Sheet
HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE 9-18-57

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

SHEET

OF

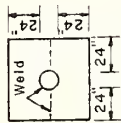
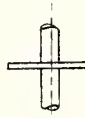
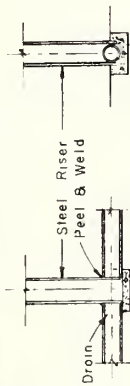
REFER TO

DROP INLET PIPE SPILLWAY

ITEM NO.	DESCRIPTION	UNIT	QTY	PRICE	TOTAL
1	1/2" RISING PIPE	STEEL PIPE	100	1.50	150.00
2	1/2" BARREL	STEEL PIPE	100	1.50	150.00

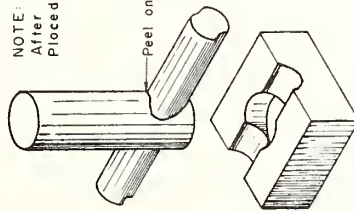
VOLUME OF CONCRETE		Quantity Cu. Yds
ITEM		
Support Block		
Other		
TOTAL		

PIPE RISER



NOTE: Construct Anti-Seep Collar
In Two Sections

NOTE: Support Block is Cost in Place After Riser Assembly is Welded and Placed.



ANTI-SEEP COLLAR

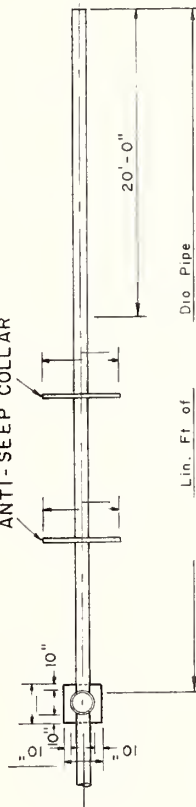
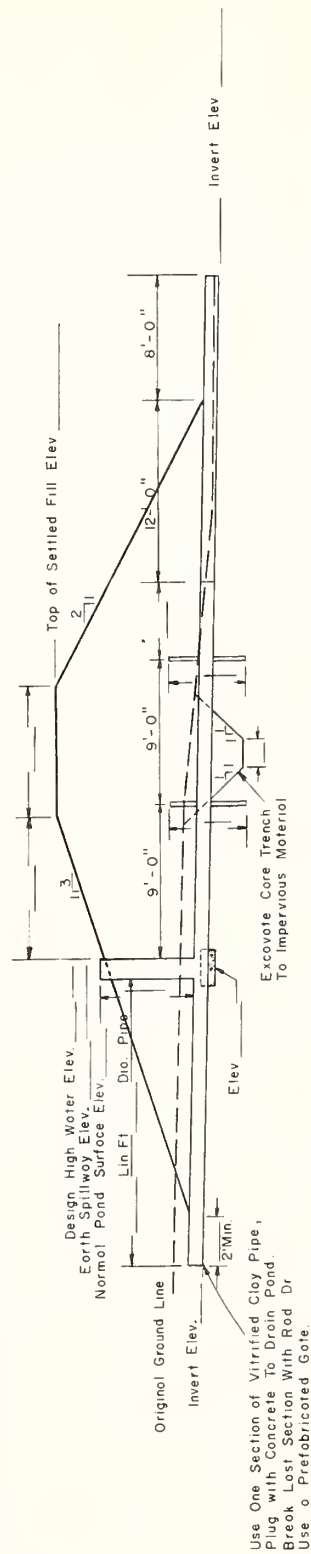


DIAGRAM SHOWING RISER ASSEMBLY
AND ITS SUPPORT BLOCK



SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use
as a Standard Drawing

HEAD ENGINEERING AND
WATERSHED PLANNING UNIT

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR	DATE
COMPILED BY	

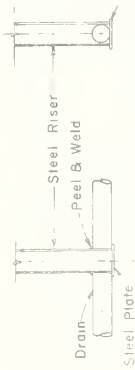
REFER TO

DROP INLET PIPE SPILLWAY

RISER STEEL PIPE
BARREL STEEL PIPE

PIPE RISER STEEL ANTI-SEEP COLLAR

VOLUME OF CONCRETE	
ITEM	Quantity Cubes
OTHER	
TOTAL	

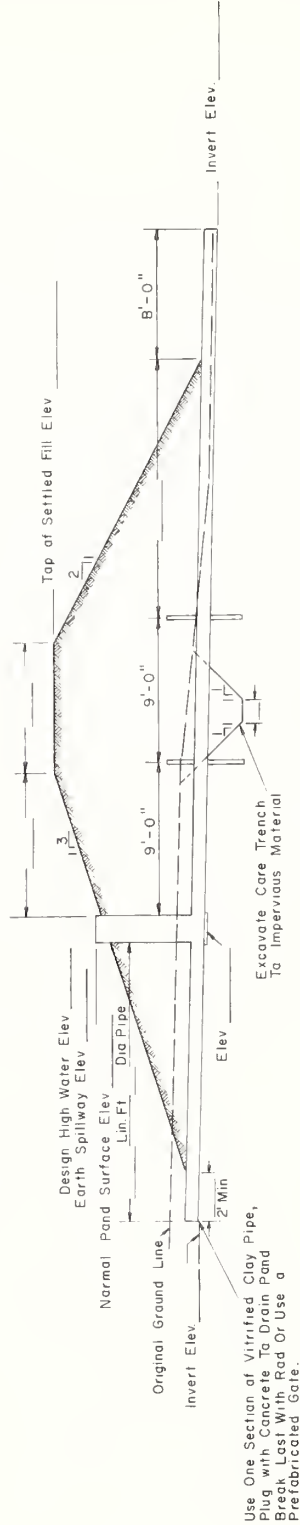


NOTE: Construct Anti-Seep Collar for two sections.
NOTE: Concrete Body may be made for Steel Collar.

NOTE: Supply 2' x 2' x 1/2" Plate After Riser Assembly is Welded and Free.



DIAGRAM SHOWING RISER ASSEMBLY AND ALTERNATE SUPPORT BLOCK



Use One Section of Vitrified Clay Pipe, Plug with Concrete To Drain Pond Break Last With Rod Or Use a Prefabricated Gate.

SECTION ON CENTERLINE OF PIPE

Prepared By: ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

Technical Approval for use as an Approved P.E. Design Sheet
HEAD ENGINEERING AND WATERSHED PLANNING UNIT
DATE 9-18-59


U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY
DATE
SHEET OF

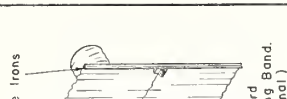
I

H
GATED

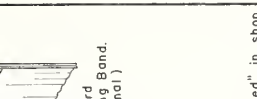
H
GATED

Bond



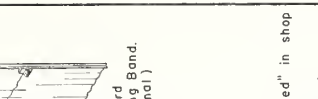


100



ed" in shop

to be sections to
ous coating.
bituminous



10

011011000



g

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

5

[illegible]

OF

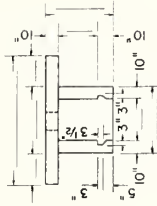
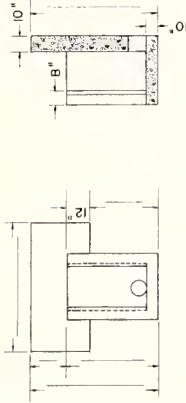
REFER TO:

DROP INLET PIPE SPILLWAY (WATER SURFACE CONTROL DEVICE)

RISE: SQUARE CONCRETE BOX WITH
FLASH BOARDS
BARREL: BITUMINOUS COATED CORRUGATED
METAL PIPE

VOLUME OF CONCRETE		Quantity Cu. Yds.
ITEM		
RISE		
Base		
Sides		
Headwall Extension		
OTHER		
SUB TOTAL		
TOTAL		

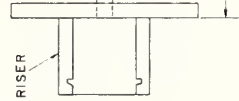
CONCRETE RISER



NOTE:

Use watertight coupling bonds at pipe joints.

CONCRETE RISER



NOTE:

Use watertight coupling bonds at pipe joints.



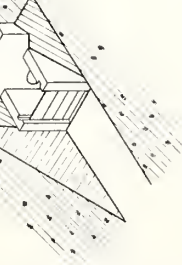
NOTE:

Use watertight coupling bonds at pipe joints.



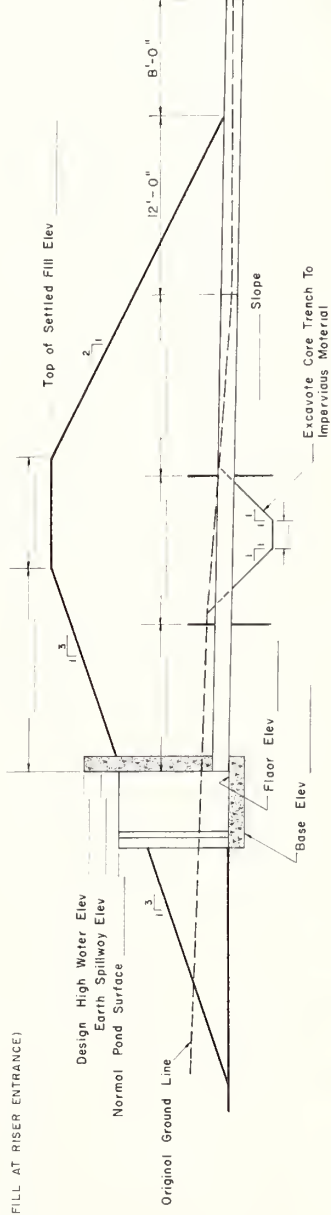
NOTE:

Use watertight coupling bonds at pipe joints.



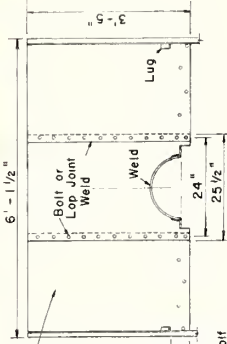
ISOMETRIC VIEW

(EARTH FILL AT RISER ENTRANCE)

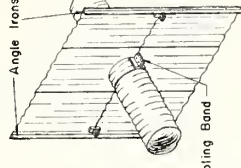
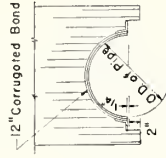


SECTION ON CENTERLINE OF PIPE

CORRUGATED ANTI-SEEP COLLAR



4 1/2" from edge on upper half
at collar and 1" from edge on
lower half.



Standard Coupling Band
(Optional)

NOTES:
Holes "match-punched" in shop to
permit field bolting.
Galvanized bolts to be furnished
with collar.
Lap between two sections to
receive extra bituminous coating
at time of assembly.
Collar to be fully bituminous
coated.

Prepared By: ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER MERY, PENNSYLVANIA

Technical Approval for use
as on Approved Pre-Design Sheet
HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE: 10-18-59

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

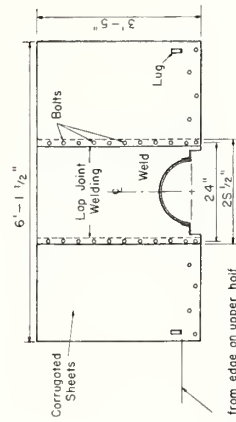
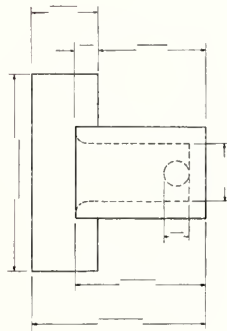
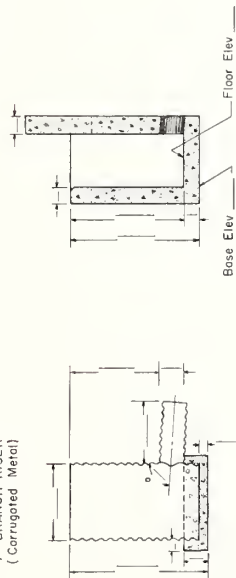
COOPERATOR: _____
COMPILED BY: _____
DATE: _____
SHEET: _____ OF _____

DROP INLET PIPE SPILLWAY (SIDE HILL TYPE)

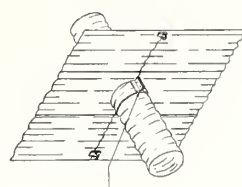
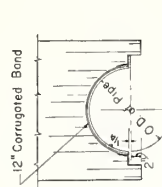
CONCRETE BOX OR CORRUGATED METAL
T-BRANCH
BARREL - BITUMINOUS COATED CORRUGATED METAL PIPE

CONCRETE RISER

ALTERNATE
T-BRANCH RISER
(Corrugated Metal)



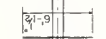
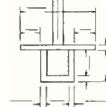
COLLAR DETAIL



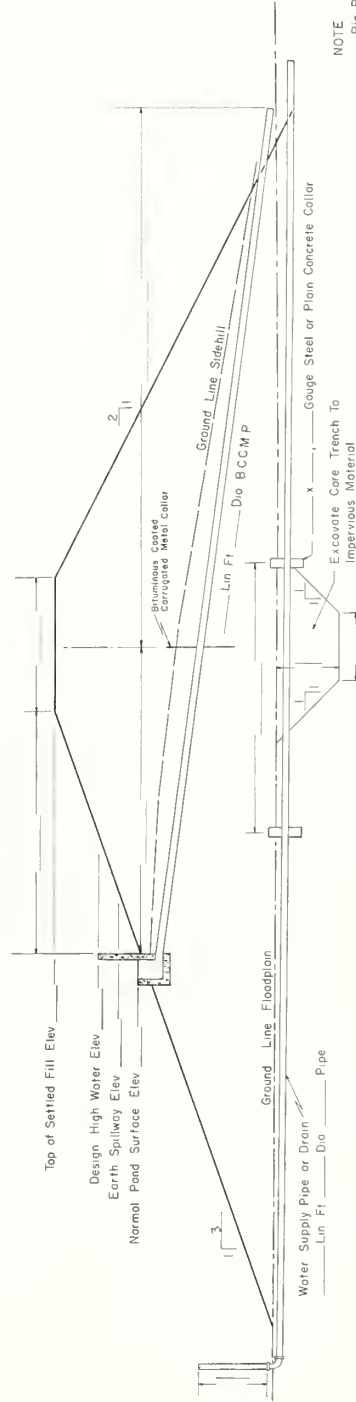
4 1/2" from edge on upper half
of collar and 1" from edge on
lower half

An alternate method of connection
is to eliminate angle irons, and
substitute 4 1/2" rods, with Tank
type lugs for connection.

NOTE
This Corrugated "1" may be
prefabricated if it is not stocked
locally



NOTES
Holes "match-punched" in shop to
permit field boring
Galvanized bolts to be furnished
with collar
Lap between two sections to re-
ceive extra bituminous coating of time
of assembly
Collar to be fully bituminous coat-
ed



NOTE
Rip Rap may be required to protect outlet

COMBINED SECTIONS THRU FILL SHOWING PIPE SPILLWAY & POND DRAIN

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

COOPERATOR
COMPILED BY

DATE

SOIL CONSERVATION DISTRICT

SHEET OF

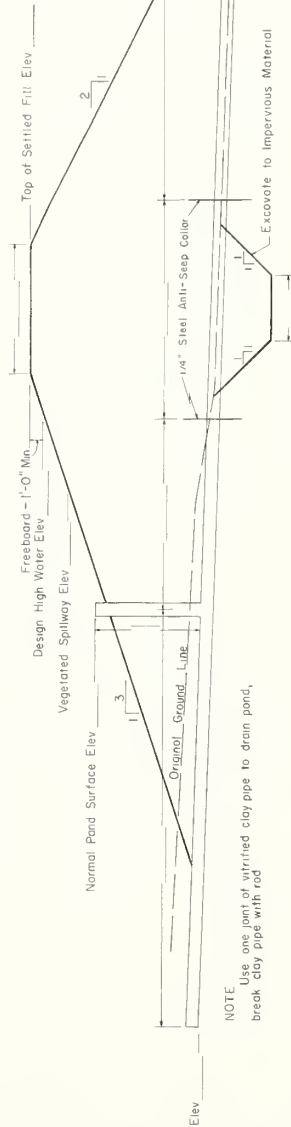
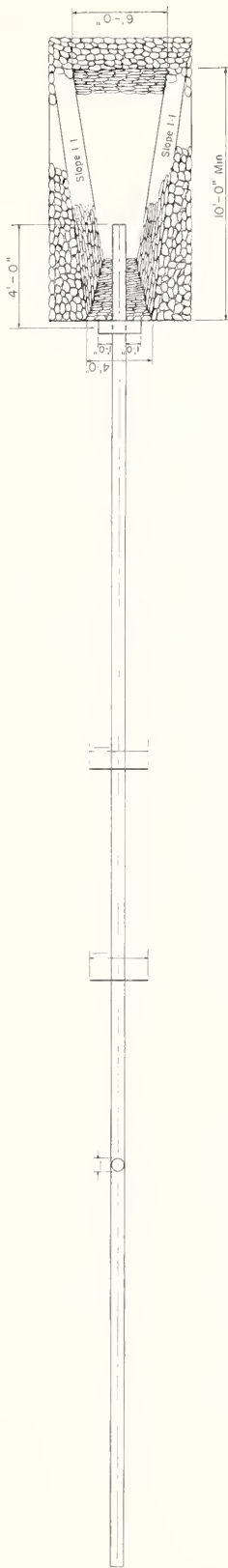
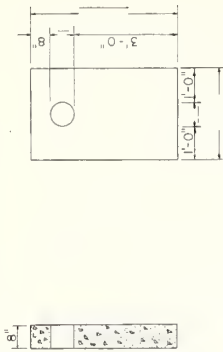
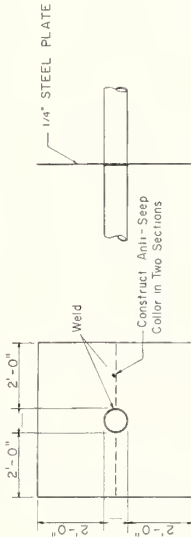
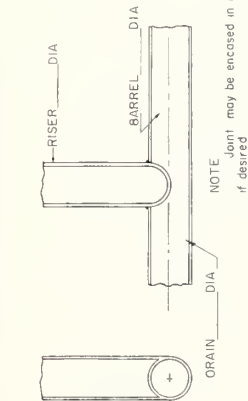
DROP INLET PIPE SPILLWAY TO BE USED WITH 4" TO 12" DIA. STEEL PIPE

RISE
STEEL PIPE
BARREL
STEEL PIPE

WELDED RISER AND DRAIN

ANTI-SEEP COLLAR

PLAIN CONCRETE BENT



NOTE
Use one part of settled clay pipe to drain pond, break clay pipe with rod

SECTION ON CENTERLINE OF PIPE

Concrete Bent
NOTE Excavate basin and rip-rap sides and bottom 18" thick

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER MARY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

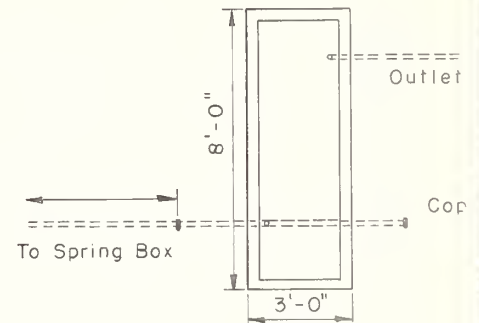
COOPERATOR
COMPILED BY

DATE
SHEET OF

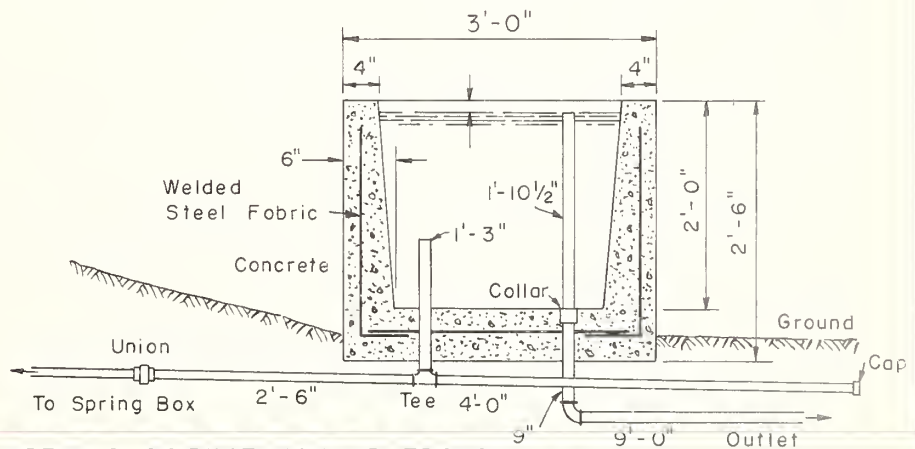
SPRING DEVELOPMENT

RECTANGULAR TROUGH

SKETCH OF COLLECTION SYSTEM
(Made by Planning Technician)



PLAN OF WATERING TROUGH



DETAILS OF RECTANGULAR TROUGH

NOTE: Material shown is for trough, add material of collection system

BILL OF MATERIALS

MATERIAL	QUANTITY	
Pipe - 1 1/4" I.D. (ends threaded)	1 of each length	2'-6", 1'-3", 0'-9", 4'-0", 9'-0" and 1'-10 1/2" lengths
Pipe Fittings - 1 1/4" I.D.	1 of each	Tee, collar, cap, ell and union
Cement	8 bags	
Sand	2/3 cu. yds. or 1 ton	
Grovel (1/4" to 1 1/4")	1 cu. yd. or 1 1/2 tons	
Welded Steel Fabric	3 pieces	2 pc. 2'-6" x 10'-6", 1 pc. 2'-6" x 7'-6"
Ready Mix Concrete	1 1/4 cu. yds.	

REFERENCE

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING & WATERSHED
PLANNING UNIT
UPPER DARBY, PENNSYLVANIA

DRAWING NO.

APD - 227

SHEET 1 OF 1

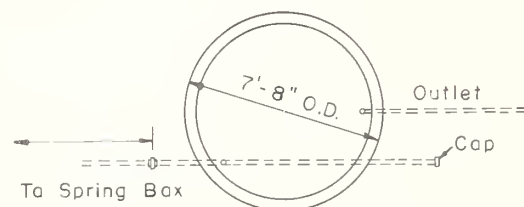
DATE 14 March 56

TECHNICAL APPROVAL FOR USE AS A FORM *APD Form* HEAD, E & WP UNIT

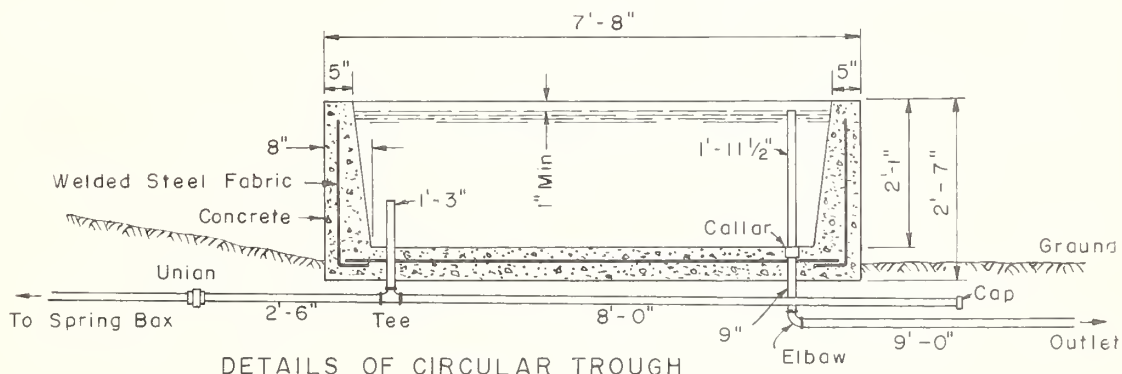
SPRING DEVELOPMENT

CIRCULAR TROUGH

SKETCH OF COLLECTION SYSTEM
(Made by Planning Technician)



PLAN OF
WATERING TROUGH



DETAILS OF CIRCULAR TROUGH

NOTE: Material shown is for trough, add material of collection system

BILL OF MATERIALS

MATERIAL	QUANTITY	
Pipe - 1 1/4" I.D. (ends threaded)	1 of each length	2'-6", 1'-3", 0'-9", 8'-0", 9'-0" and 1'-11 1/2" lengths
Pipe Fittings - 1 1/4" I.D.	1 of each	Tee, collar, cap, ell and union
Cement	12 bags	
Sand	1 cu. yd. or 1 1/2 tons	
Gravel (1/4" to 1 1/2")	1 1/2 cu. yds. or 1 1/4 tons	
Welded Steel Fabric	4 pieces	2 pc. 2'-6" x 12'-0", 1 pc 5'-0" x 7'-6", 1 pc. 2'-6" x 7'-6"
Ready Mix Concrete	1 7/8 cu. yds.	

REFERENCE

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ENGINEERING & WATERSHED
PLANNING UNIT
UPPER DARBY, PENNSYLVANIA

DRAWING NO.

APD - 228

SHEET 1 OF 1
DATE 14 March 56

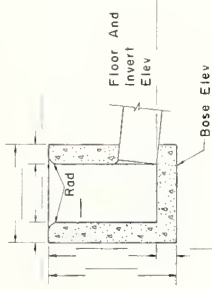
TECHNICAL APPROVAL FOR USE AS A FORM *APD-228* HEAD, E & WP UNIT

WHEN USED IN WEST VIRGINIA, REFER TO:
TABLE 9.3 FOR RISER DIMENSIONS
TABLE 9.4 FOR DIMENSIONS AND CONCRETE QUANTITIES

DROP INLET PIPE SPILLWAY (SIDE HILL TYPE)

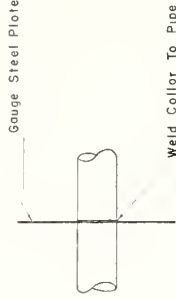
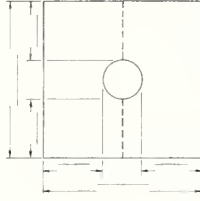
RISER CONCRETE BOX OR PIPE
BARREL STEEL, CORRUGATED METAL OR
VITRIFIED CLAY PIPE

CONCRETE RISER



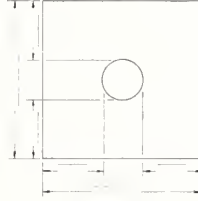
NOTE
Pipe Riser May Be
Used As An Alternative
x x

ANTI-SEEP COLLAR, METAL



NOTE
Fabricate Anti-Seep Collar
In Two Sections

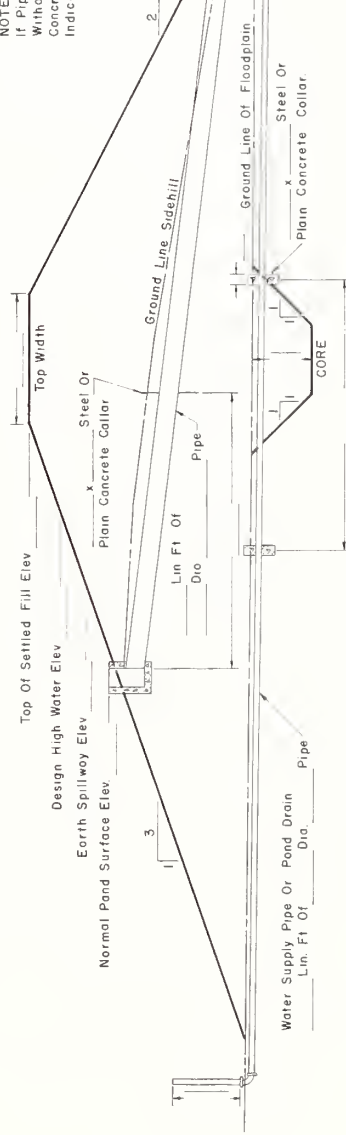
ANTI-SEEP COLLAR, CONCRETE



(Minimum Thickness - 6")

NOTE

If Pipe Spillway Is Vitrified Clay
Without Slip Seal Joint, Use
Concrete Grade Or Bedding And
Indicate On Drawing



COMBINED SECTIONS THRU FILL SHOWING PIPE SPILLWAY & POND DRAIN

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
UPPER DARBY, PENNSYLVANIA

TECHNICAL APPROVAL
FOR USE AS AN APPROVED PRE-DESIGN SHEET
DATE: DEC. 1956

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

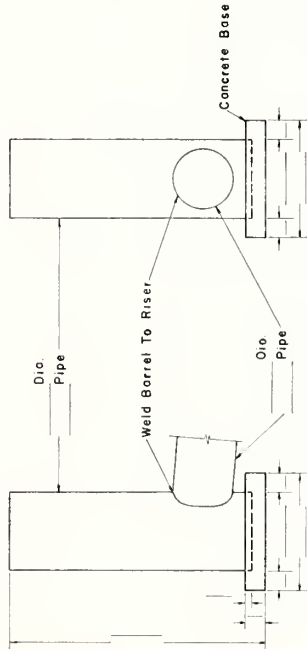
SHEET OF

WHEN USED IN WEST VIRGINIA, REFER TO:
TABLE 9.3 FOR RISER DIMENSIONS
TABLE 9.4 FOR DIMENSIONS AND CONCRETE QUANTITIES

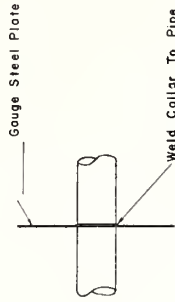
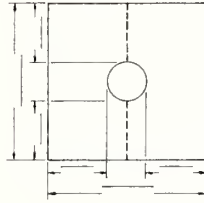
DROP INLET PIPE SPILLWAY

RISER: STEEL PIPE
BARREL: STEEL PIPE

PIPE RISER

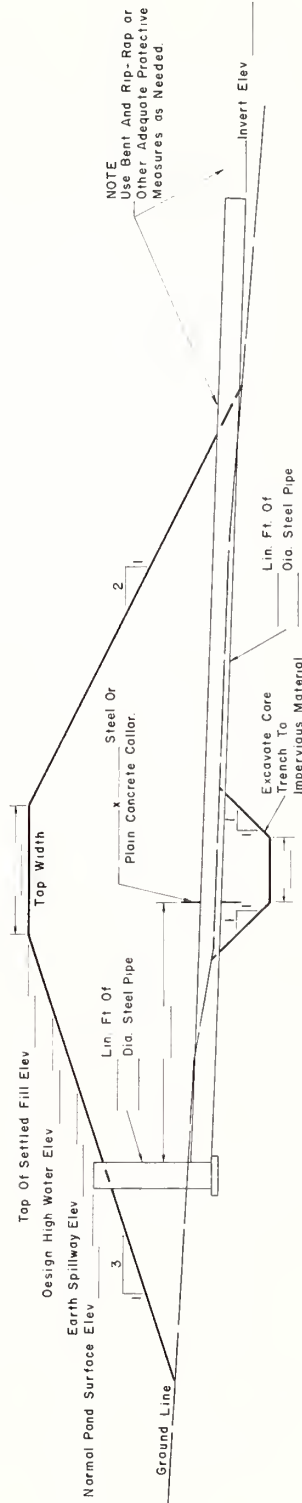
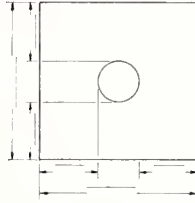


ANTI-SEEP COLLAR, METAL



NOTE:
Fabricate Anti-Seep Collar
In Two Sections

ANTI-SEEP COLLAR, CONCRETE



SECTION ON CENTERLINE OF PIPE

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
UPPER MARY, PENNSYLVANIA

TECHNICAL APPROVAL
FOR USE AS AN APPROVED PRE-DESIGN SHEET
HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE DEC. 1956

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE

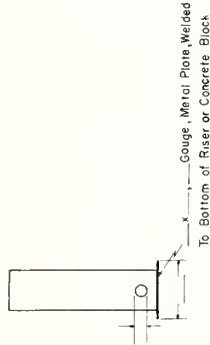
SHEET OF

DROP INLET PIPE SPILLWAY

RISER WROUGHT IRON, OR STEEL PIPE
BARREL WROUGHT IRON, OR STEEL PIPE

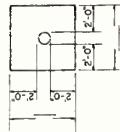
VOLUME OF CONCRETE	
ITEM	Quantity Cu Yds.
COLLARS	
OTHERS	
TOTAL	

PIPE RISER



CONCRETE COLLAR

NOTE:
Steel Collar may be substituted for
Concrete Collar



Wrap Metal Pipe With Two Layers of
Heavy Asphalt Saturated Roofing Felt

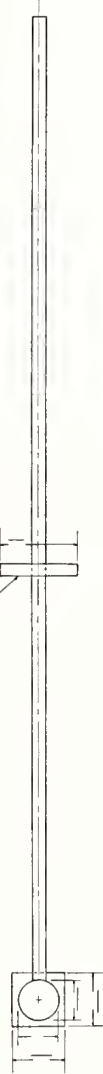
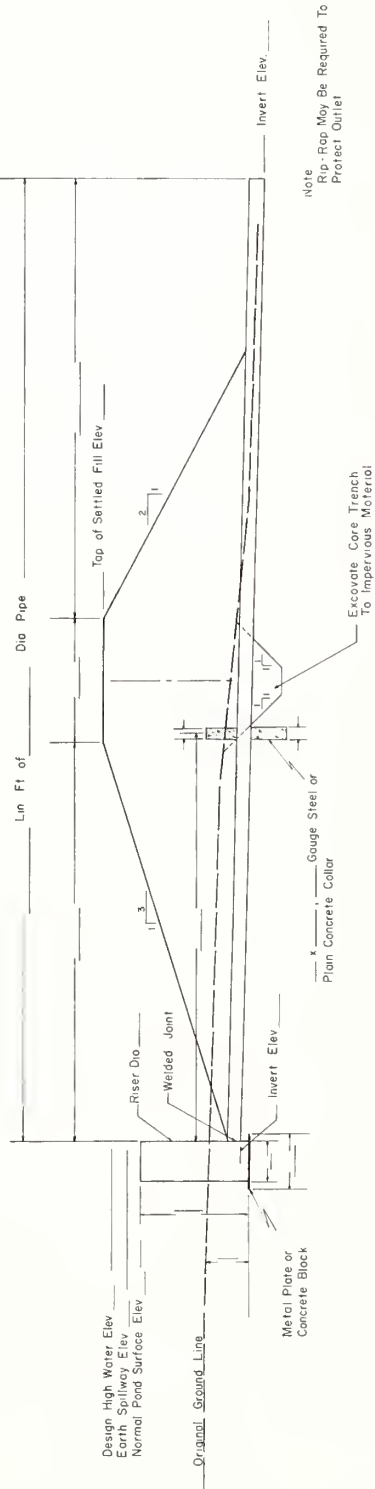
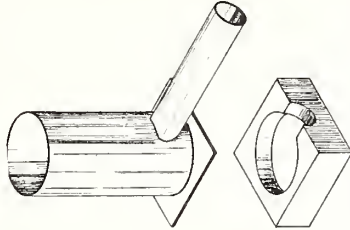


DIAGRAM SHOWING RISER ASSEMBLY
AND ALTERNATE SUPPORT BLOCK



SECTION ON CENTERLINE OF PIPE

Technical Approval for use as
on Approved Pre-Design Sheet

HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE Dec. 3, 1956

Prepared By:
ENGINEERING & WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

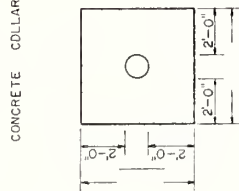
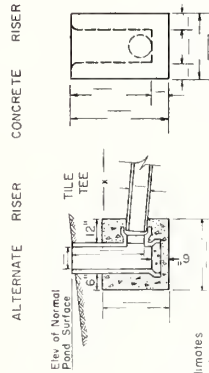
DATE

SHEET OF

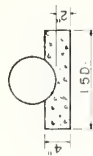
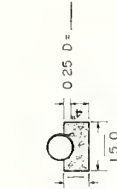
<p>RISER:</p> <p>SQUARE CONCRETE BOX OR TILE TEE</p> <p>BARREL:</p> <p>CONCRETE, VITRIFIED CLAY, CAST IRON, WROUGHT IRON, OR STEEL PIPE</p>

VOLUME OF CONCRETE	
ITEM	Quantity Cu Yds
RISER	
COLLAR	
CRAOLE	
OTHER	
TOTAL	

NOTE In Northern Climates
Extend Concrete Junction
Block to Normal Pond Sur-
face



NOTE
Steel Collar May Be Substituted For
Concrete Collar



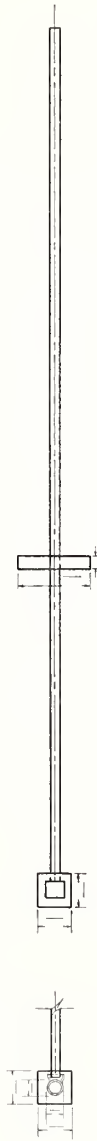
CONCRETE CRADLE

CONCRETE COLLAR

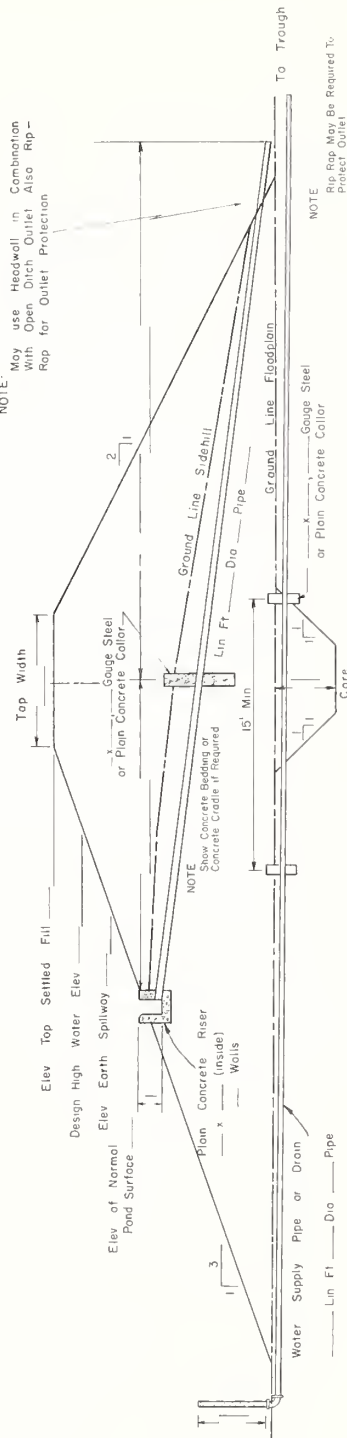
CONCRETE RISER

ALTERNATE RISER

CONCRETE BEDDING



NOTE - May use Headwall in Combination With Open Ditch Outlet Also Rip - Rap for Outlet Protection



NOTE
Rip Rap May Be Required To
Protect Outlet

COMBINED SECTIONS THRU FILL SHOWING PIPE SPILLWAY & POND DRAIN

Prepared By: ENGINEERING & WATERSHED PLANNING UNIT DESIGN SECTION UPPER DARBY, PENNSYLVANIA	Technical Approval for use as an Approved PIS-Design Sheet <i>Approved</i> HEAD ENGINEERING AND WATERSHED PLANNING UNIT DATE Dec 3, 1956
---	---

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

COOPERATOR
COMPILED BY

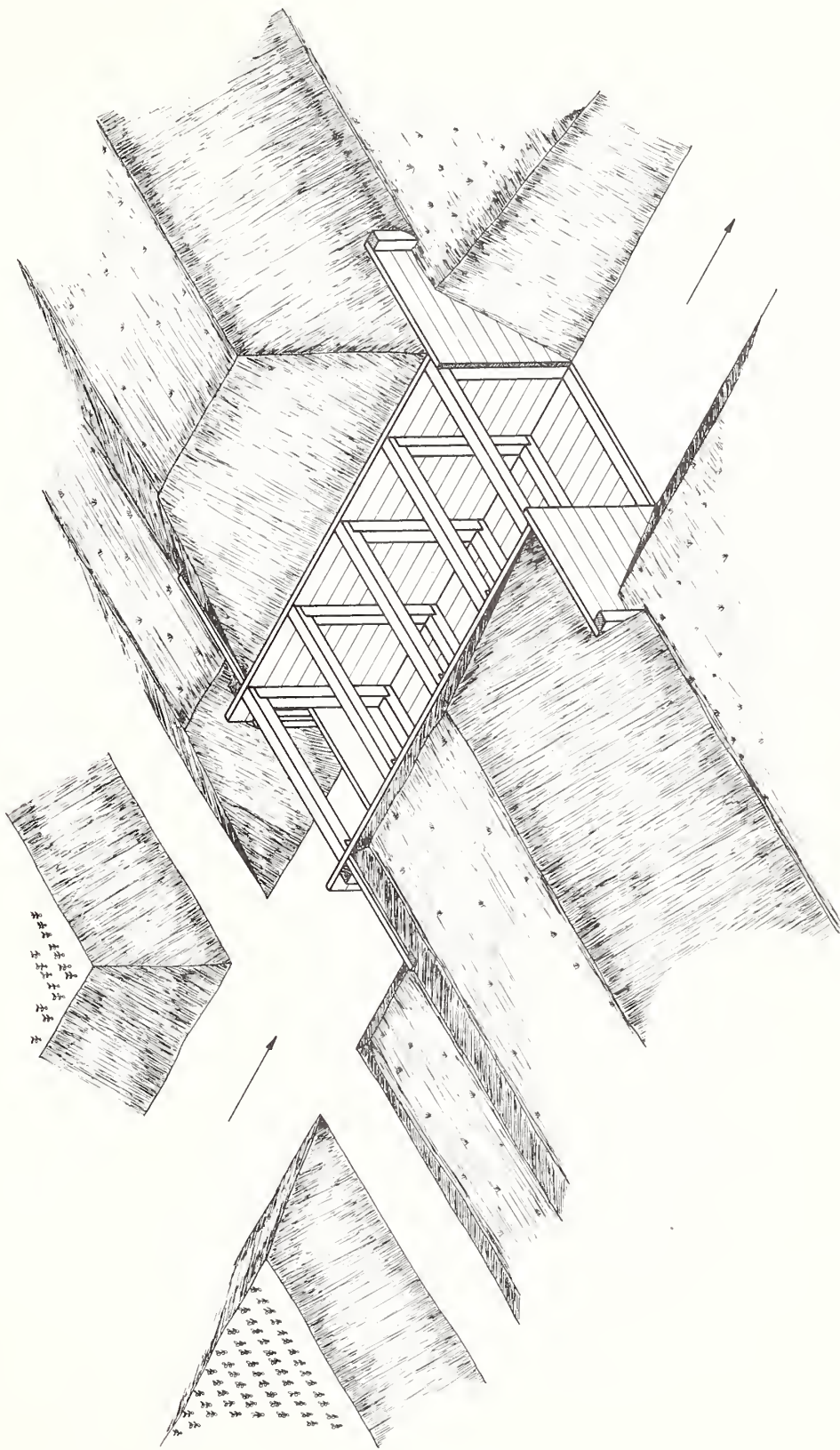
SOIL CONSERVATION DISTRICT

SHEET _____ OF _____

APD - 251

REFER TO

CRANBERRY BOGS WATER CONTROL STRUCTURE ISOMETRIC DRAWING OF OPEN TIMBER FLUME



PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

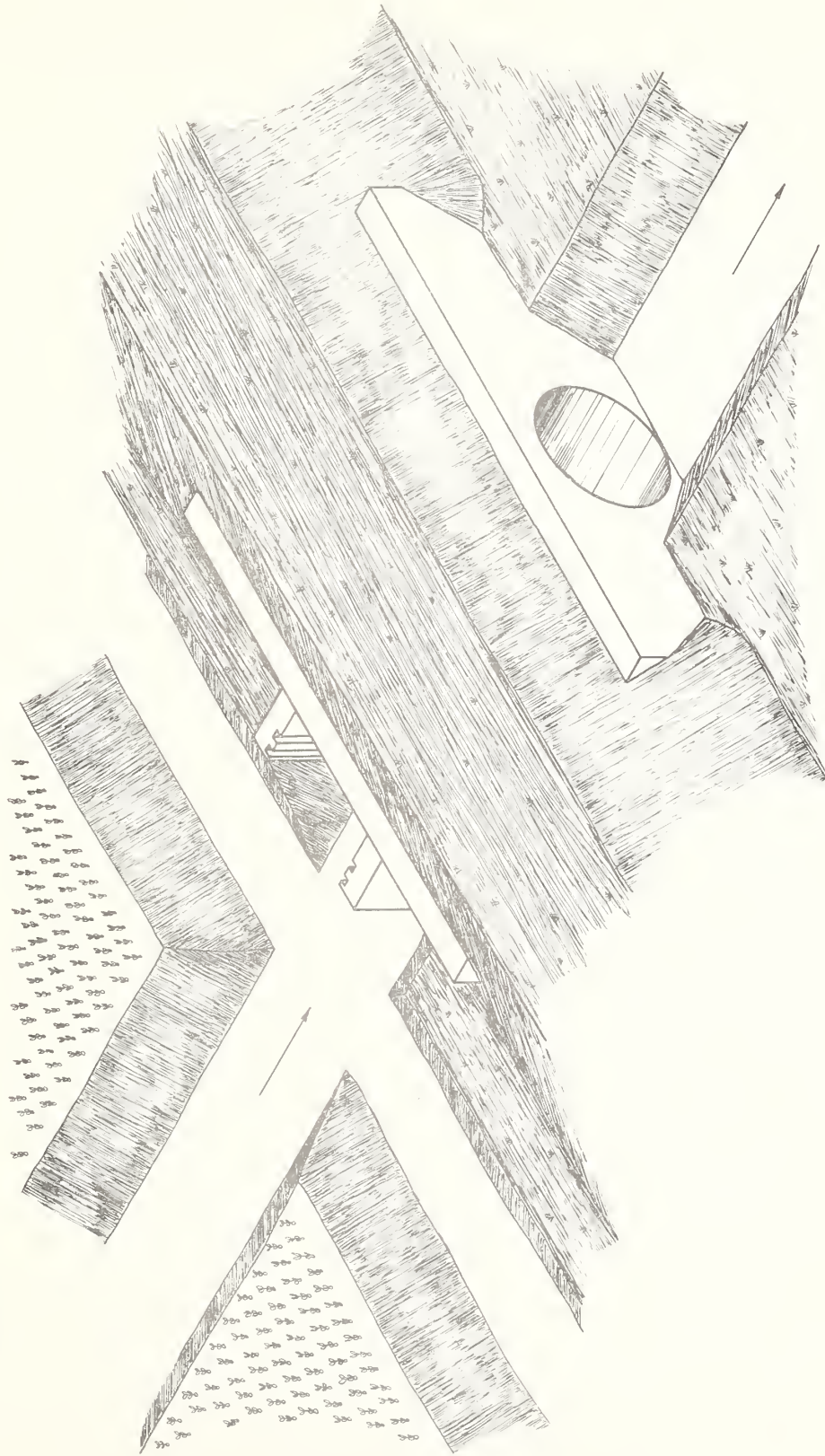
TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET
HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE OCTOBER 1958

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR _____
COMPILED BY _____
DATE _____
SHEET 1 OF 1

REFER TO :

CRANBERRY BOGS WATER CONTROL STRUCTURE ISOMETRIC DRAWING OF CLOSED CONCRETE CONDUIT



TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET

PREPARED BY:
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE OCTOBER 1958

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR

COMPILED BY

DATE

SHEET 1 OF 1

USE ESNE - 52 FOR CORRUGATED METAL PIPE
HYDRAULICS
ESNE - 53 FOR CONCRETE PIPE HYDRAULICS

CRANBERRY BOG WATER CONTROL STRUCTURE
TIMBER RISER & GATE FOR SINGLE CONCRETE OR CORRUGATED METAL PIPE

BILL OF MATERIALS

MEMBER	SIZE	LENGTH	NO PIECES	BD FT
A				
B				
C				
D				
E (Stop Log)				
F				
DESCRIPTION		UNIT	QUANTITY	

FORMULA $\frac{L' \times d' \times b'}{12} = \text{BOARD FEET}$

NOTES:

Bolts are recommended at joints that are difficult to nail properly. The remainder of the structure can be joined with appropriate nails.

The standard practice of treating oil lumber with an accepted preservative, is recommended. Two heavy coats of preservative should be placed on all nails, bolts and surfaces of or below grade.

If sledge hammer is used, protect framing member from splintering by placing another piece of lumber between sledge and member. An extra length of 12" should be allowed, so that 6" can be cut off below troyed section. If the member is split beyond that limit, it should be rejected.

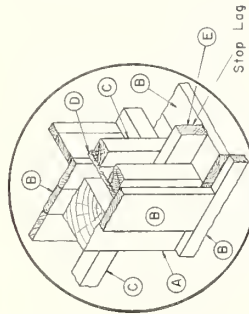
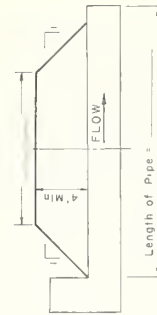
Height of riser above pipe invert shall not exceed 6'-0" maximum.

Lengths of all members vary.

The junction of the pipe and riser shall be sealed by calking with Oakum and then coating with a Bituminous Fibrous Cement (Commercial Grade).

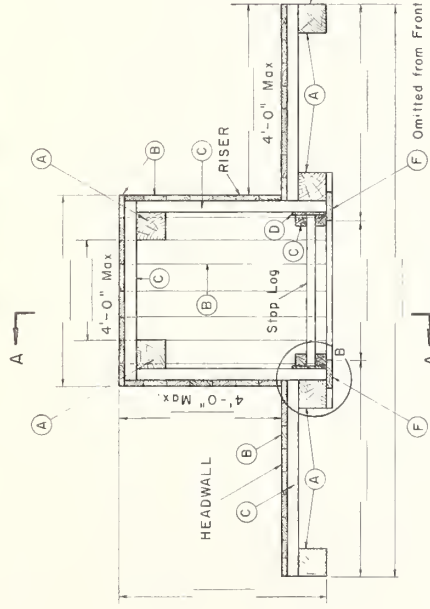
The use of a permanent stop log or a double stop log is optional.

Lumber shall be Red or White Oak or lumber with similar structural strength. Lumber may be rough or finished.



DETAIL B

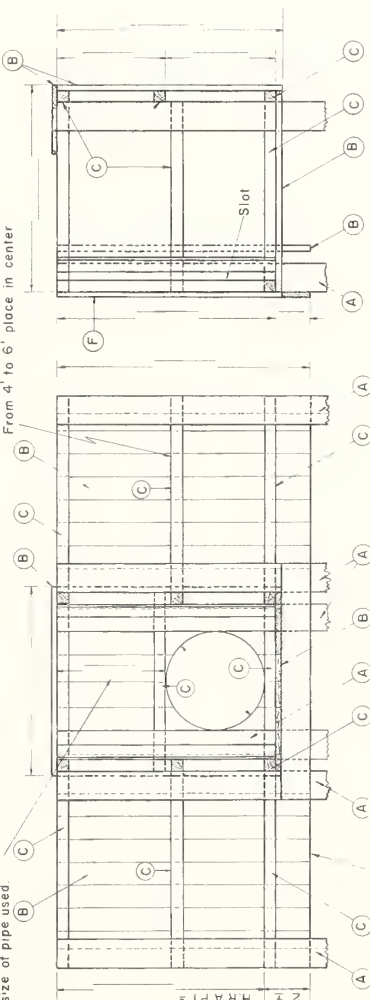
Members A will be driven into earth far enough to form a firm support.



PLAN VIEW

Height above pipe may vary with size of pipe used.

From 0' to 4'-0" omit this member. From 4' to 6' place in center.



FRONT VIEW

NOTE: Drive to firm earth. (Optional)

DESIGNATION OF STRUCTURAL MEMBERS

H R A P I MEMBER	SIZE	MEMBER	SIZE	MEMBER	SIZE	MEMBER	SIZE
4'	A	B	2" B	C	4" 4"	D	1" 10"
4 1/2'	A	B	2" B	C	4" 4"	D	1" 10"
5'	A	B	2" B	C	4" 4"	D	1" 10"
5 1/2'	A	B	2" B	C	4" 4"	D	1" 10"
6'	A	B	2" B	C	4" 4"	D	1" 10"

H R A P I = Height of riser above pipe invert

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PIPE DESIGN SHEET
BY
HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE: OCTOBER 1959

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER MERION, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

SHEET
DATE
OF

USE : ESNE - 52 FOR CORRUGATED METAL PIPE
HYDRAULICS
ESNE - 53 FOR CONCRETE PIPE HYDRAULICS

CRANBERRY BOG WATER CONTROL STRUCTURE TIMBER RISER & GATE FOR DOUBLE CONCRETE OR CORRUGATED METAL PIPE

BILL OF MATERIALS

MEMBER	SIZE	LENGTH	NO. PIECES	BD. FT.
A				
B				
C				
D				
E (Stop Log)				
F				
DESCRIPTION	UNIT	QUANTITY		

$$\text{FORMULA } \frac{L' \times d' \times b' \times}{12} = \text{BOARD FEET}$$

NOTES

Bolts are recommended at joints that are difficult to nail properly. The remainder of the structure can be joined with appropriate nails.

The standard practice of treating all lumber with an accepted preservative, is recommended. Two heavy coats of preservative should be placed on all nails, bolts and surfaces of or below grade.

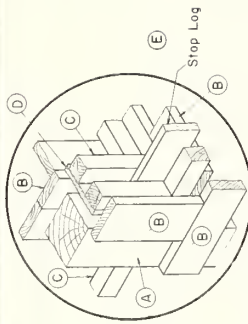
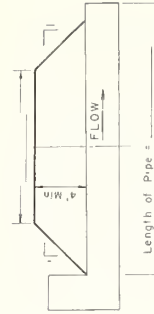
If sledge hammer is used, protect framing member from splintering by placing another piece of lumber between sledge and member. An extra length of 12" should be allowed, so that 6" can be cut off below froyed section. If the member is split beyond that limit, it should be rejected.

Height of riser above pipe invert shall not exceed 6'-0" maximum.

Lengths of all members vary

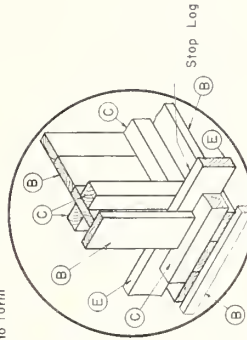
The juncture of the pipe and riser shall be sealed by caulking with Oakum and then coating with a Bituminous Fibrous Cement (Commercial Grade).

The use of a permanent stop log or a double stop log is optional. The minimum thickness of the stop log shall be 2". Lumber shall be Red or White Oak or lumber with similar structural strength. Lumber may be rough or finished.



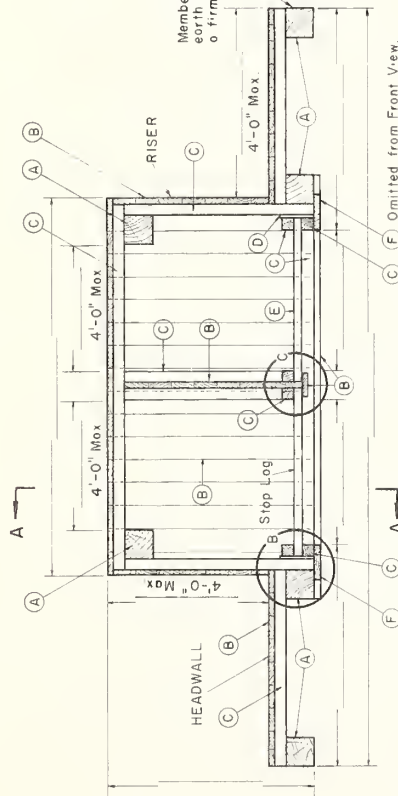
DETAIL B

Members (A) will be driven into earth for enough to form a firm support.

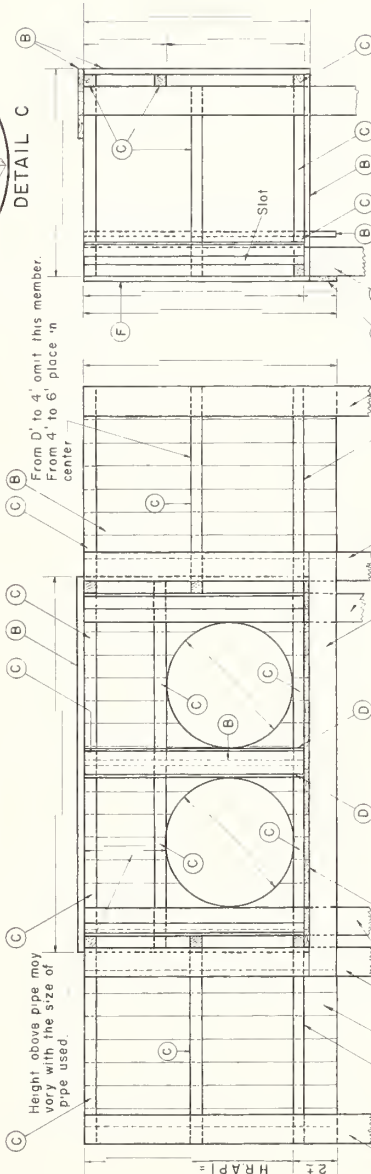


DETAIL D

From D' to d', omit this member. From 4' to 6', place in center.



PLAN VIEW



FRONT VIEW

SECTION A-A

NOTE
Drive to firm earth (Optional)

DESIGNATION OF STRUCTURAL MEMBERS

MEMBER	SIZE	MEMBER	SIZE	MEMBER	SIZE	MEMBER	SIZE	MEMBER	SIZE
A	8" B"	B	2" B"	C	4" 4"	D	1" 10"	E	2" B"
A	8" B"	B	2" B"	C	4" 4"	D	1" 10"	E	2" B"
A	10" 10"	B	2" B"	C	4" 4"	D	1" 10"	E	3" B"
A	10" 10"	B	2" B"	C	4" 4"	D	1" 10"	E	3" B"
A	10" 10"	B	2" B"	C	4" 4"	D	1" 10"	E	3" B"
A	10" 10"	B	2" B"	C	4" 4"	D	1" 10"	E	3" B"

*H.R.A.P.I. = Height of riser above pipe invert

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET

HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE OCTOBER 1958

PREPARED BY
ENGINEERING AND WATERSHED
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

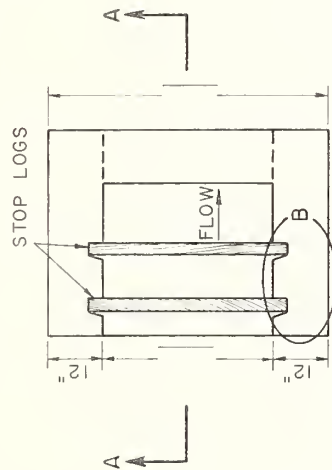
COOPERATOR
COMPILED BY

DATE
SHEET 1 OF 1

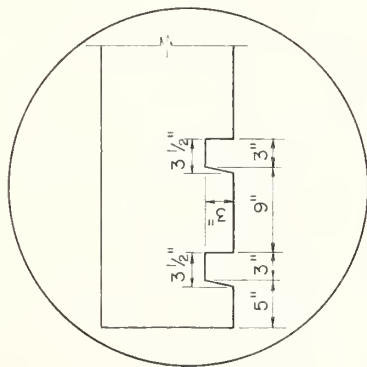
USE: ESNE - 52 FOR CORRUGATED METAL PIPE
HYDRAULICS
ESNE - 53 FOR CONCRETE PIPE HYDRAULICS
APD - 252 FOR ISOMETRIC

CRANBERRY BOG WATER CONTROL STRUCTURE
PLAN OF CONCRETE RISER AND TIMBER GATE FOR SINGLE CONCRETE OR CORRUGATED METAL PIPE

BILL OF MATERIAL				
ITEM		QUANTITY		
CONCRETE				
STOP LOGS				
SIZE		DESIGNATION OF STOP LOGS		
PIPE SIZE	STOP LOG	LENGTH	QUANTITY	BD FT.
FROM	TO	SIZE		
18 "	36 "			
36 "	48 "			



PLAN VIEW

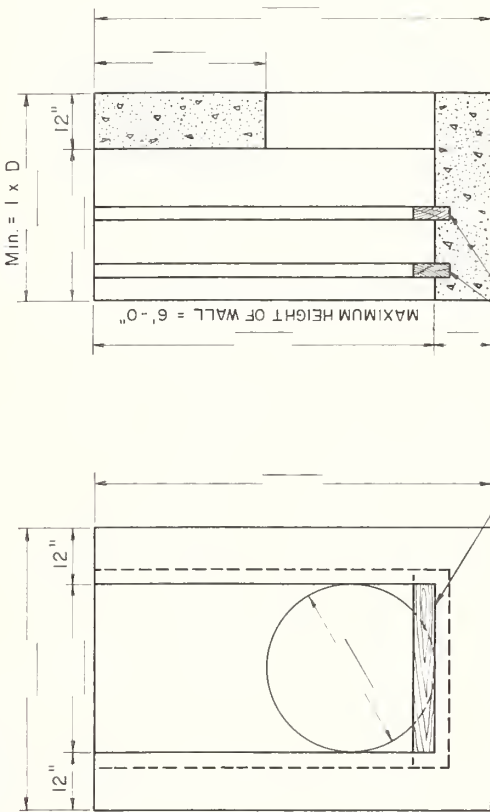


DETAIL B

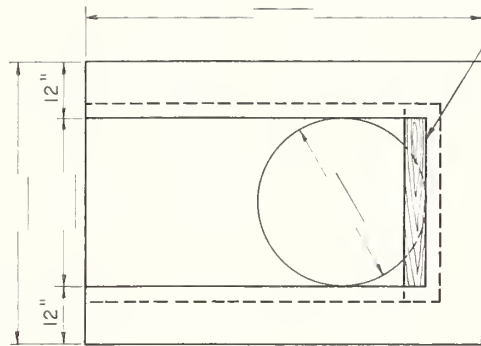
NOTE:
THICKNESS OF BOTTOM SLAB MAY VARY. THE MAXIMUM HEIGHT OF SIDE WALLS FROM THE TOP OF BOTTOM SLAB SHALL BE 6'-0".

LENGTHS OF STOP LOGS WILL VARY WITH DIAMETER OF PIPE USED

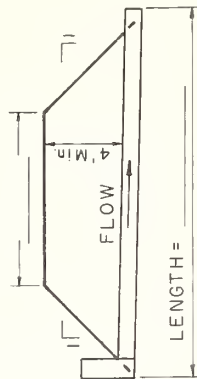
THE USE OF A PERMANENT STOP LOG IS OPTIONAL. THE MINIMUM THICKNESS OF THE STOP LOG SHALL BE 2".



SECTION A-A



FRONT VIEW



PREPARED BY:
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY
SHEET 1 OF 2
DATE
APD - 255

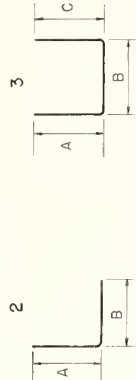
ESNE - 52 FOR CORRUGATED METAL PIPE HYDRAULICS
 USE : ESNE - 53 FOR CONCRETE PIPE HYDRAULICS
 APD - 252 FOR ISOMETRIC

CRANBERRY BOG WATER CONTROL STRUCTURE REINFORCING STEEL DETAILS OF CONCRETE RISER FOR SINGLE CONCRETE OR CORRUGATED METAL PIPE

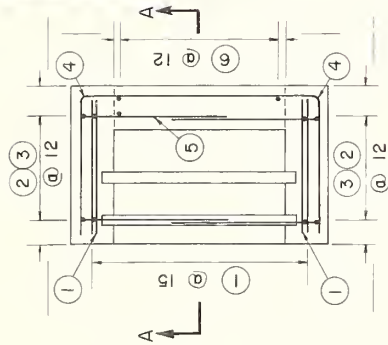
STEEL SCHEDULE

MARK	LOCATION	QUAN	SIZE	TYPE	LENGTH	A	B	C	TOTAL FT.
1	Floor & Sidewalls	4	1						
2	"	5	2						
3	"	5	2						
4	Back & Sidewalls	4	3						
5	"	4	2						
6	Backwall	5	1						

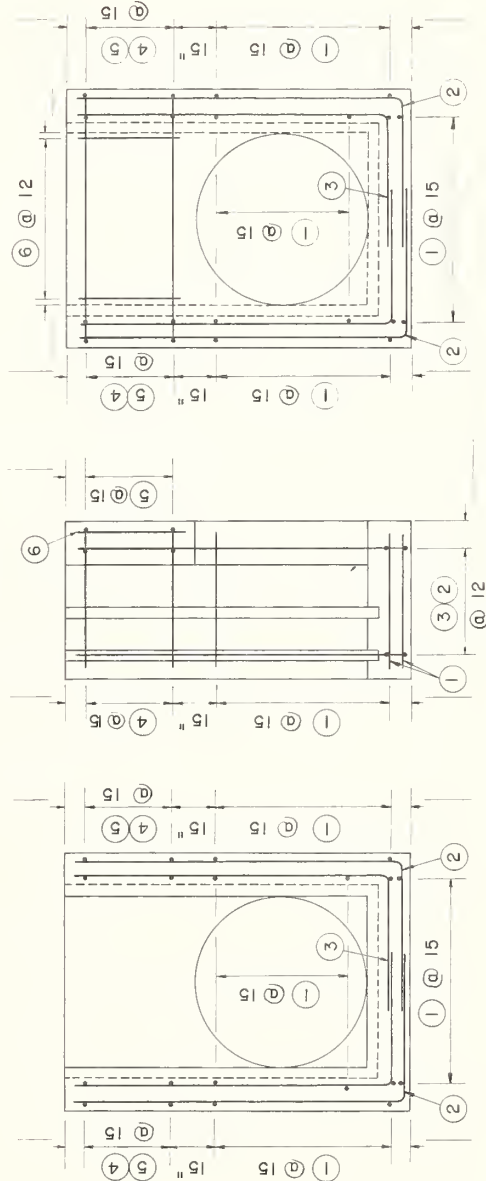
BAR TYPES



NOTE
 LENGTH OF LAP AT SPLICES :
 NO. 4 BAR = 15"
 NO. 5 BAR = 19"
 MINIMUM COVER :
 2" OF CLEAR CONCRETE



PLAN VIEW



FRONT VIEW

BACK VIEW

SECTION A-A

PREPARED BY
 ENGINEERING AND WATERSHED
 PLANNING UNIT
 DESIGN SECTION
 UPPER DARBY, PENNSYLVANIA

TECHNICAL APPROVAL FOR USE
 AS AN APPROVED PRE-DESIGN SHEET

U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 ASSISTING

COOPERATOR
 COMPILED BY

DATE
 SHEET 2 OF 2

HEAD, ENGINEERING AND
 WATERSHED PLANNING UNIT
 DATE OCTOBER 1958

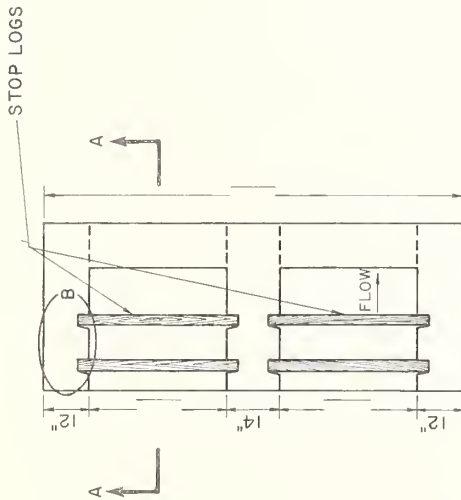
SOIL CONSERVATION DISTRICT

ESNE-52 FOR CORRUGATED METAL PIPE
USE ESNE-53 FOR CONCRETE PIPE HYDRAULICS
APD-252 FOR ISOMETRIC

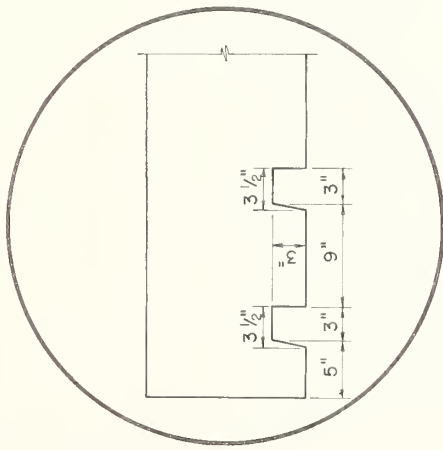
CRANBERRY BOG WATER CONTROL STRUCTURE PLAN OF CONCRETE RISER & TIMBER GATE FOR DOUBLE CONCRETE OR CORRUGATED METAL PIPE

BILL OF MATERIAL				
ITEM		QUANTITY		
CONCRETE				
STOP LOGS				
SIZE DESIGNATION OF STOP LOGS				
PIPE SIZE		STOP LOG	LENGTH	QUANTITY
FROM	TO	SIZE		BD FT.
18"	36"			
36"	48"			

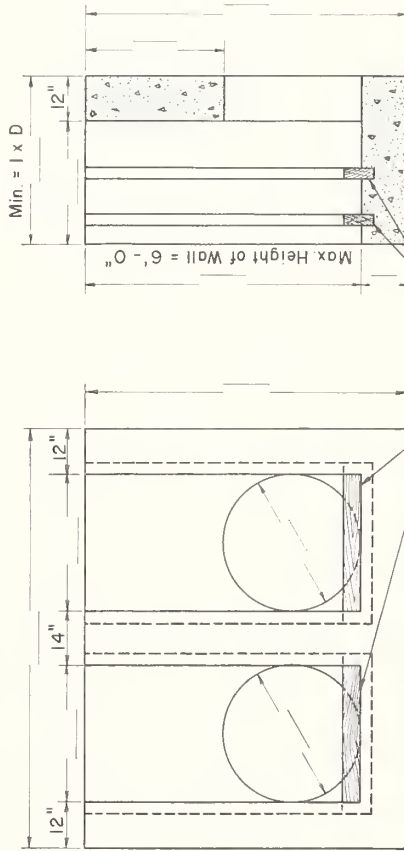
NOTE:
THICKNESS OF BOTTOM SLAB MAY VARY THE MAXIMUM HEIGHT OF SIDE WALLS FROM THE TOP OF BOTTOM SLAB SHALL BE 6'-0".
LENGTH OF STOP LOGS WILL VARY WITH DIAMETER OF PIPE USED
THE USE OF A PERMANENT STOP LOG OR A DOUBLE STOP LOG IS OPTIONAL. THE MINIMUM THICKNESS OF THE STOP LOG SHALL BE 2".



PLAN VIEW

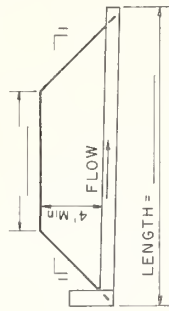


DETAIL B



FRONT VIEW

SECTION A-A



TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET

PREPARED BY:
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE: OCTOBER 1958

ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR

COMPILED BY

DATE

SHEET 1 OF 2

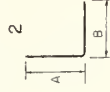
ESNE-52 FOR CORRUGATED METAL PIPE
 USE: ESNE-53 FOR CONCRETE PIPE HYDRAULICS
 APD-252 FOR ISOMETRIC

CRANBERRY BOG WATER CONTROL STRUCTURE REINFORCING STEEL DETAILS OF CONCRETE RISER FOR DOUBLE CONCRETE OR CORRUGATED METAL PIPE

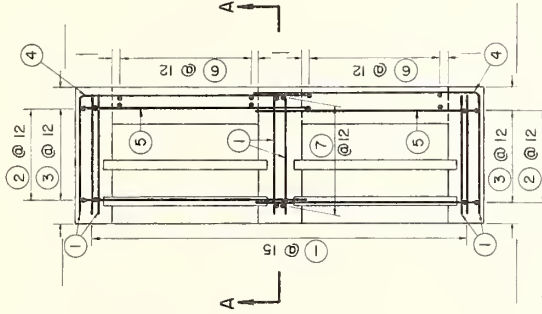
STEEL SCHEDULE

MARK	LOCATION	QUANTITY	SIZE	LENGTH	A	B	C	TOTAL FT.
1	Floor & Sidewalls	4	1					
2	"	5	2					
3	"	5	2					
4	Back & Sidewalls	4	2					
5	"	4	2					
6	Backwall	5	1					
7	Center Support	5	1					

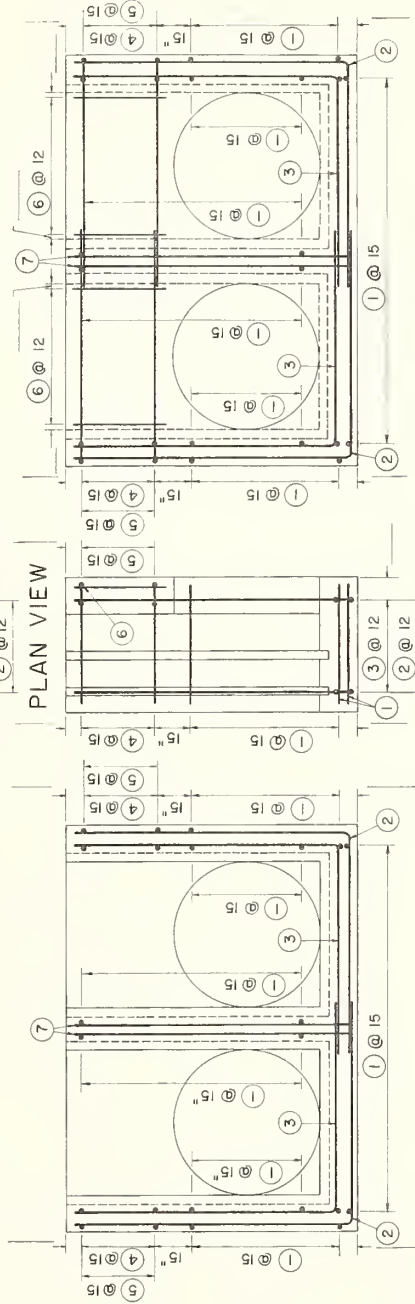
BAR TYPES



NOTE:
 LENGTH OF LAP AT SPLICES:
 NO. 4 BAR = 15"
 NO. 5 BAR = 19"
 MINIMUM COVER:
 2" OF CLEAR CONCRETE



PLAN VIEW



FRONT VIEW

SECTION A-A

BACK VIEW

PREPARED BY:
 ENGINEERING AND WATERSHED
 PLANNING UNIT
 DESIGN SECTION
 UPPER DARBY, PENNSYLVANIA

TECHNICAL APPROVAL FOR USE
 AS AN APPROVED PRE-DESIGN SHEET
 HEAD, ENGINEERING AND
 WATERSHED PLANNING UNIT
 DATE: OCTOBER, 1958

U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
 COMPILED BY

DATE: _____
 SHEET 2 OF 2

CRANBERRY BOG WATER CONTROL STRUCTURE
PLAN OF CORRUGATED METAL RISER & ANTI-SLEEP COLLARS FOR CORRUGATED METAL PIPE

BILL OF MATERIAL	ITEM	QUANTITY
CONCRETE		
COUPLING BANDS		
CM RISER		
BCCMP		
ANTI-SLEEP CLRS		
STOP LOGS		

SIZE DESIGNATION OF STOP LOGS			
PIPE SIZE FROM	PIPE SIZE TO	STOP LOG LENGTH	QUANTITY
18"	36"		
36"	48"		

NOTE: A SUGGESTED TABLE TO MAINTAIN AREA OF RISER $1/2 \times$ AREA OF CONDUIT USE.

DIA CONDUIT	DIA RISER
18 ¹¹	36 ¹¹
21 ¹¹	42 ¹¹
24 ¹¹	48 ¹¹
30 ¹¹	54 ¹¹
36 ¹¹	66 ¹¹
42 ¹¹	76 ¹¹
48 ¹¹	84 ¹¹

NOTE:

IF ANTI-SEEP COLLAR IS TO BE BOLTED TOGETHER, HOLES WILL BE MATCH PUNCHED IN SHOP TO PERMIT FIELD BOLTING. GALV. BOLTS WILL BE FURNISHED WITH ANTI-SEEP COLLAR

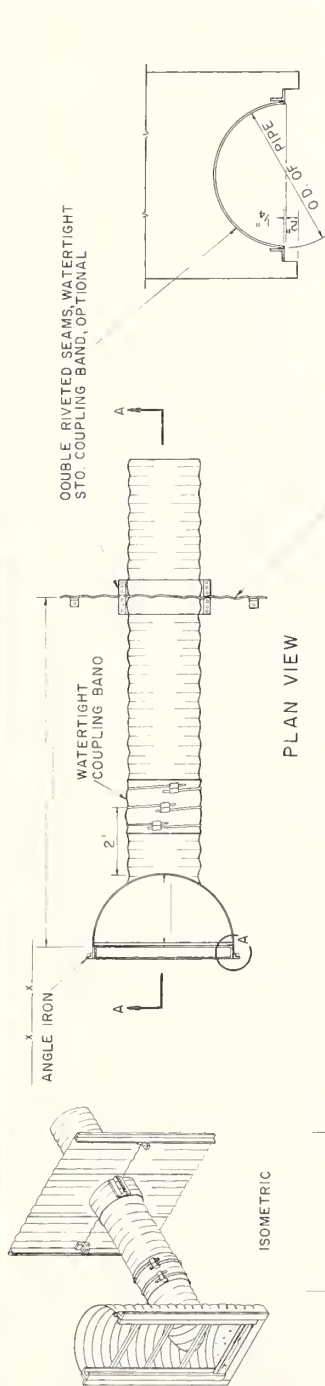
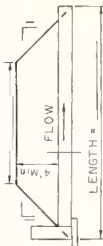
LAP BETWEEN TWO SECTIONS
WILL RECEIVE EXTRA BITUMINOUS
COATING AT TIME OF ASSEMBLY.

ANTI-SEEP COLLAR WILL BE
FULLY BITUMINOUS COATED.

FOOTING FOR RISER: BASE A RE-
COMMENCED WHERE FOUNDATION IS
POOR, BASE B WHERE FOUNDATION
IS FIRM

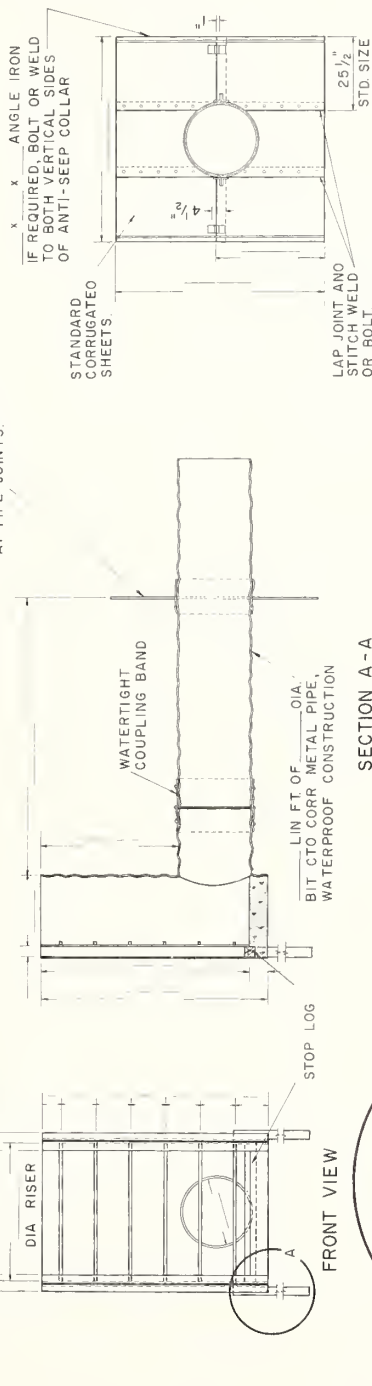
MAXIMUM HEIGHT OF RISER ABOVE
PIPE INVERT SHALL NOT EXCEED 6'-0"
ANTI-SEEP COLLAR SHOULD BE
PLACED APPROX. $\frac{1}{3}$ DISTANCE OF
LENGTH OF PIPE FROM RISER ALL
METAL SURFACES SHALL BE AS-
PHALT COATED.

THE USE OF A PERMANENT STOP LOG IS OPTIONAL. THE MINIMUM THICKNESS OF THE STOP LOG SHALL BE 2"

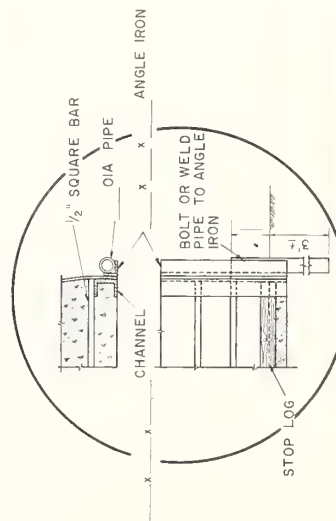


PLAN VIEW

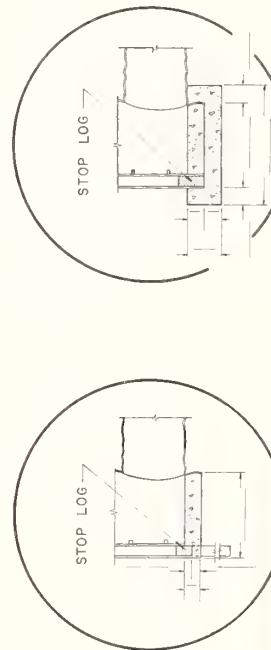
ANTI - SEEP COLLARS
NOT TO BE PLACED
AT PIPE JOINTS.



SECTION A-A



DETAIL A



DETAIL OF BASE A

DETAIL OF BASE B

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET

U. S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

HEAO, ENGINEERING AND

DATE OCTOBER 1958

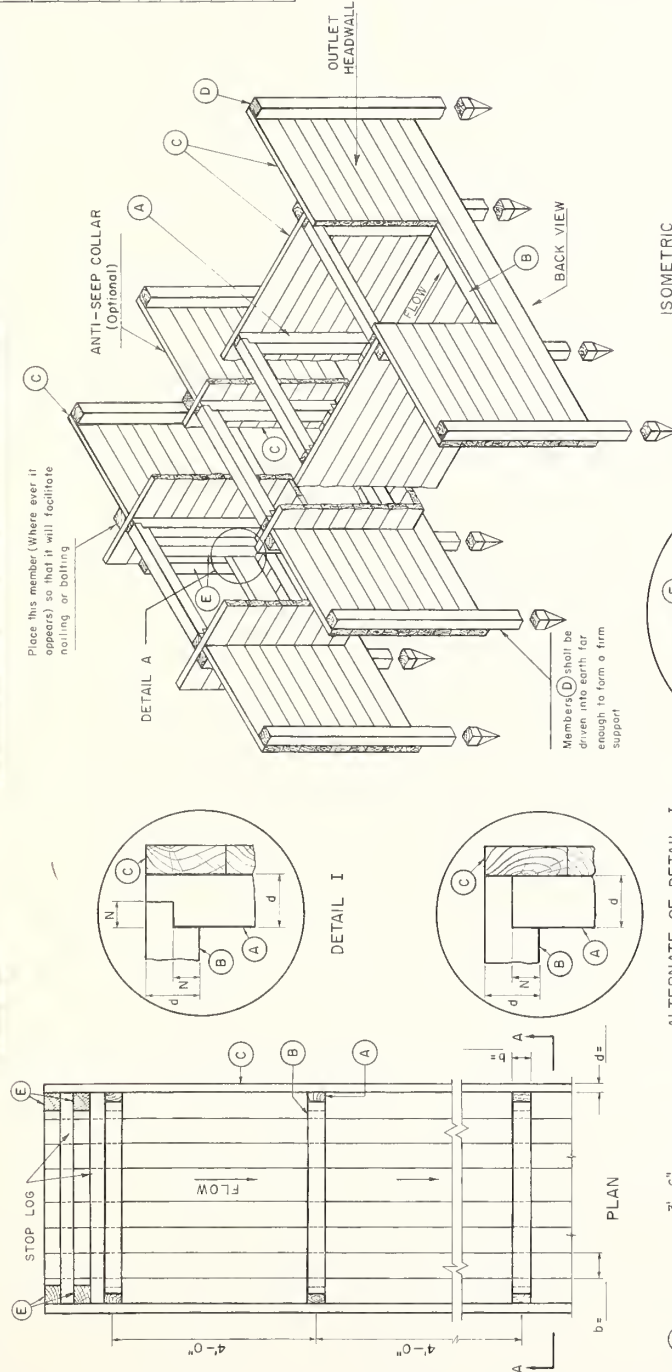
COOPERATOR

COMPILED BY—

SOIL CONSERVATION DISTRICT

USE: ESNE-50 FOR HYDRAULICS

CRANBERRY BOG WATER CONTROL STRUCTURE PLAN AND DETAILS OF COMBINATION SINGLE TIMBER GATE AND FLUME



$$\text{FORMULA} = \frac{L \times d \times b}{12} = \text{BOARD FEET}$$

NOTES:

$\frac{3}{8}$ " Bolts are recommended at joints that are difficult to nail properly. The remainder of the structure can be joined with appropriate nails.

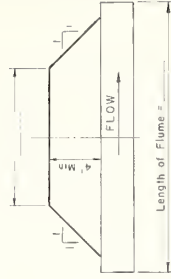
The standard practice of treating all lumber with an accepted preservative, is recommended. Two heavy coats of preservative should be placed on all nails, bolts and surfaces of or below grade.

If a sledge hammer is used, protect framing members from splintering by placing another piece of lumber between sledge and member. An extra length of 12" should be allowed, so that 6" can be cut off below flayed section if the member is split beyond that limit, it should be rejected.

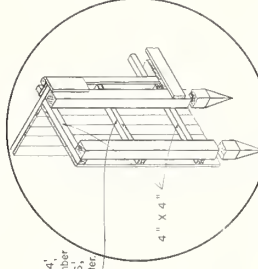
Length of member C varies.

The use of a permanent stop log or a double stop log is optional. The minimum thickness of the stop log shall be 2".

Lumber shall be Red or White Oak or lumber with similar structural strength. Lumber may be rough or finished.



ISOMETRIC



ALTERNATE FOR HEADWALL WITH VERTICAL BOARDS

DETAIL A

ALTERNATE OF DETAIL I

Slots for stop logs

DETAIL I

DESIGNATION OF STRUCTURAL MEMBERS

MEMBER	MAXIMUM LENGTH	MAXIMUM NOTCH (IN)	SIZE d	b	MEMBER	SIZE d	b	MEMBER	SIZE d	b	HEIGHT	SIZE d	b
A	3'	2"	4"	4"	B	3'-10"	2"	4"	C	2"	6"	4"	4"
A	4'	2"	4"	4"	B	3'-10"	2"	4"	C	2"	6"	4"	4"
A	5'	2 1/2"	6"	4"	E	3'-11"	2 1/2"	6"	C	2"	10"	4"	4"
A	6'	2 1/2"	6"	6"	B	3'-11"	2 1/2"	6"	C	3"	8"	4"	4"

TECHNICAL APPROVAL FOR USE AS AN APPROVED PRE-DESIGN SHEET

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
WATERSHED PLANNING UNIT
UPPER DARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR

COMPILED BY

DATE

DATE OCTOBER 1958

SHEET 1 OF 1

CRANBERRY BOG WATER CONTROL STRUCTURE
PLAN AND DETAILS OF COMBINATION DOUBLE TIMBER GATE AND FLUME

BILL OF MATERIALS					
MEMBER	SIZE	LENGTH	NO. PIECES	BD. FT.	
A					
B					
C					
D					
E					
F					
G					
H					
J (Shop Lag)	3" x 8"				
K					
DESCRIPTION		UNIT	QUANTITY		

FORMULA: $\frac{L' \times d'' \times b''}{12} = \text{BOARD FEET}$

NOTES

$\frac{3}{8}$ " Bolts are recommended at joints that are difficult to nail properly. The remainder of the structure can be joined with appropriate nails.

The standard practice of treating all lumber with an accepted preservative, is recommended. Two heavy coats of preservative should be placed on all nails, bolts and surfaces at or below grade.

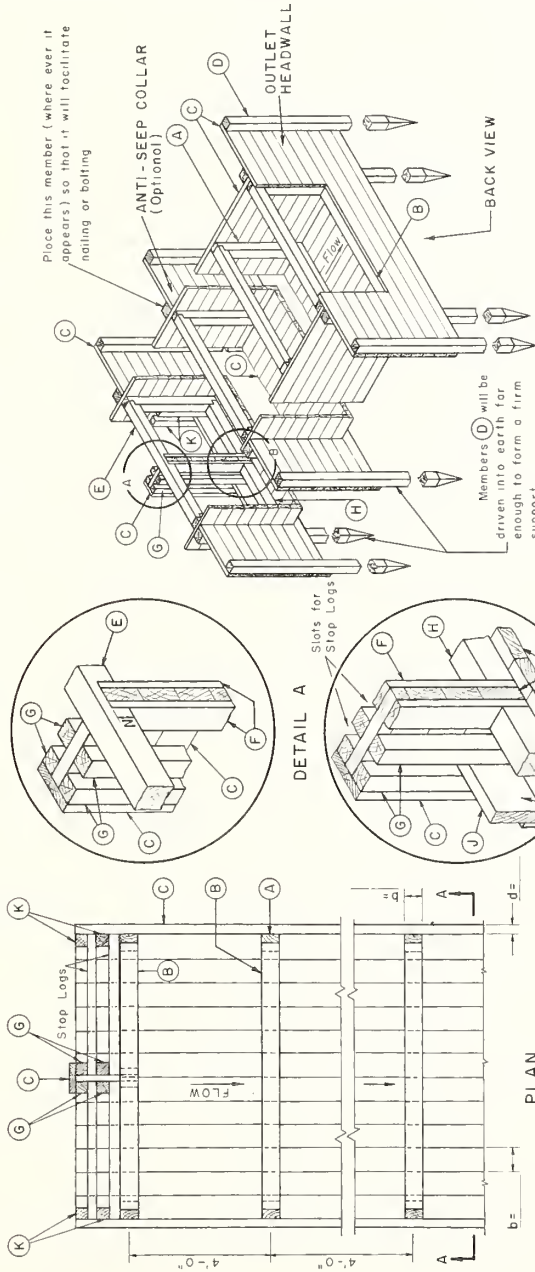
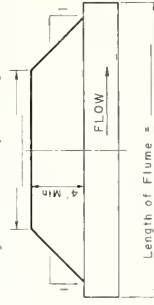
if sledge hammer is used, protect framing member from splintering by placing another piece of lumber between sledge and member. An extra length of 12"

section If the member is split beyond that limit, it should be rejected

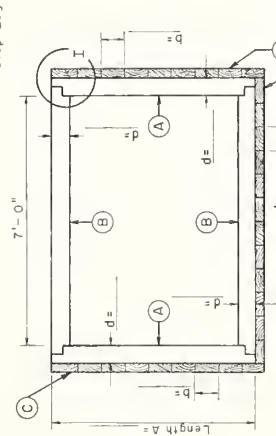
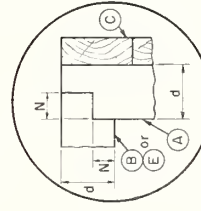
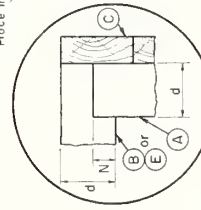
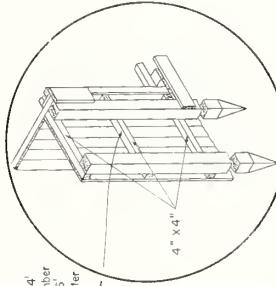
Center notch of member E will conform with end notch Length of member C varies

The use of a permanent stop log or double stop log is optional. The minimum thickness of the stop log shall be 2."

Lumber shall be Red or White Oak or lumber of similar structural strength. Lumber may be rough or finished.



ISOMETRIC



SECTION A-A

DETAIL I ALTERNATE OF DETAIL I ALTERNATE FOR HEADWALL WITH VERTICAL BOARDS

DESIGNATION OF STRUCTURAL MEMBERS

MEMBER	MAXIMUM LENGTH (KNOTCH)		MEMBER		MAXIMUM LENGTH (KNOTCH)		SIZE		MEMBER		HEIGHT		SIZE		MEMBER		HEIGHT		SIZE			
	a	b	d	e	d	e	d	e	d	e	d	e	d	e	d	e	d	e	d	e		
A	3'	4"	8"	7'-4"	C	2'	6"	D	4'	4"	E	7'-4"	F	2'-10"	G	3'	4"	H	3'-5"	K	1'-8"	4"
A	4'	2'	4"	8"	C	2'	8"	D	4'	4"	E	7'-4"	F	3'-10"	G	4"	4"	H	3'-5"	K	2'-6"	4"
A	5'	2 1/2"	4"	7'-5"	C	2'	10"	D	4'	6"	E	7'-5"	F	4'-9 1/2"	G	5'	4"	H	3'-5 1/2"	K	3'-8"	4"
A	6'	2 1/2"	6"	7'-5"	C	2'	8"	D	6"	6"	E	7'-5"	F	5'-9 1/2"	G	6'	4"	H	3'-5 1/2"	K	4'-8"	4"

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE - DESIGN SHEET

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE OCTOBER 1958

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR-
COMPILED BY

CRANBERRY BOG WATER CONTROL STRUCTURE
PLAN & DETAIL OF COMBINATION SINGLE TIMBER GATE & CONDUIT

[illegible]

FORMULA: $= \frac{L' \times d''' \times b'''}{12} = \text{BOARD FEET}$

NOTES

$\frac{3}{8}$ " Bolts are recommended at joints that are difficult to nail properly. The remainder of the structure can be joined with appropriate nails.

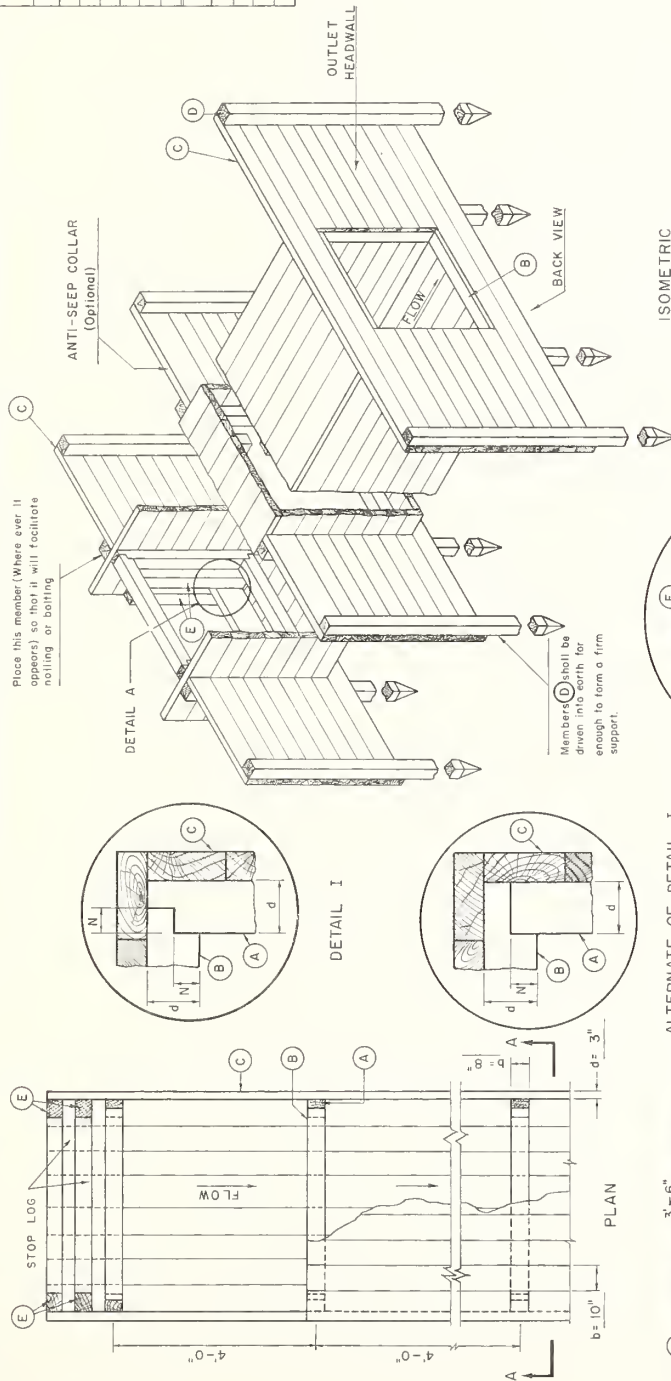
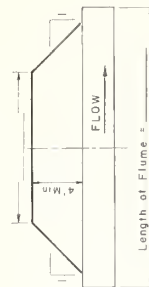
The standard practice of treating all lumber with an accepted preservative, is recommended. Two heavy coats of preservative should be placed on all nails, bolts and surfaces at or below grade.

If a sledge hammer is used, protect framing members from splintering by placing another piece of lumber between sledge and member. An extra length of 12" should be allowed, so that 6" can be cut off below froyed section. If the member is split beyond that limit, it should be rejected

Length of member C varies.

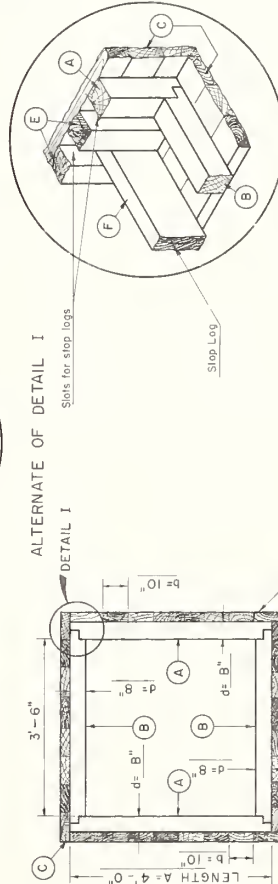
The use of a permanent stop log or double stop log is optional. The minimum thickness of the stop log shall be 2" .

Lumber shall be Red or White Oak or lumber with similar structural strength. Lumber may be rough or finished.

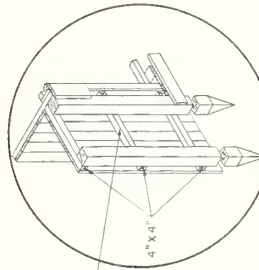


ALTERNATE OF DETAIL

Slots for stop loss



SECTION A-A



ALTERNATE FOR HEADWALL
WITH VERTICAL BOARDS

DESIGNATION OF STRUCTURAL MEMBERS															
MEMBER	LENGTH	MAXIMUM NOTCH(N)		MEMBER	SIZE	MEMBER	SIZE		MEMBER	HEIGHT	SIZE		MEMBER	SIZE	
		a	b				d	b			d	b		d	
A	4'-0"	3"	8"	B	3"	10"	C	8"	B ¹	2'	d ¹	0"	F	3"	B ¹
A	3'-0"	3"	8"	B	3"	10"	C	8"	B ¹	2'	d ¹	0"	F	3"	B ¹

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE - DESIGN SHEET

PREPARED BY:
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT

DATE OCTOBER 1958

SOIL CONSERVATION DISTRICT

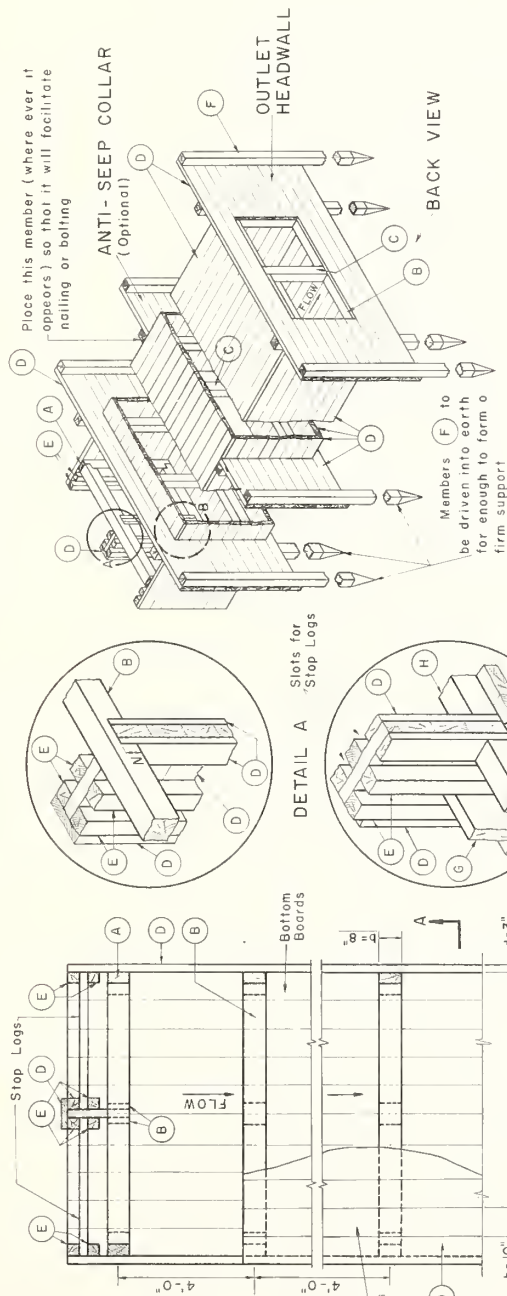
COOPERATOR -

COMPILED BY _____ DATE _____

SHEET 1 OF 1

CRANBERRY BOG WATER CONTROL STRUCTURE
PLAN AND DETAILS OF COMBINATION DOUBLE TIMBER GATE AND CONDUIT

USE: ESNE 54 FOR HYDRAULICS


$$\text{FORMULA} = \frac{L'' \times d'' \times b''}{12} = \text{BOARD FEET}$$

NOTES:

³/₈ - Bolts are recommended of joints that are difficult to nail properly. The remainder of the structure can be joined with appropriate nails.

The standard practice of treating oil lumber with an accepted preservative, is recommended. Two heavy coats of preservative should be placed on oil nails, bolts and surfaces of below grade.

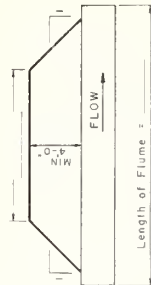
If sledge hammer is used, protect framing member from splintering by placing another piece of lumber between sledge and member. An extra length of 12" should be allowed, so that 6" can be cut off below frayed section if the member is split beyond that limit, it should be rejected.

Center notch of member B will conform with end notch

Length of member D varies

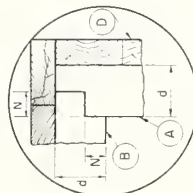
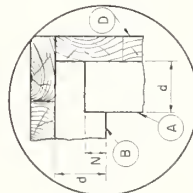
The use of a permanent stop log or double stop log is optional. The minimum thickness of the stop log shall be 2".

Lumber shall be Red or White Oak or lumber with similar structural strength. Lumber may be rough or finished.



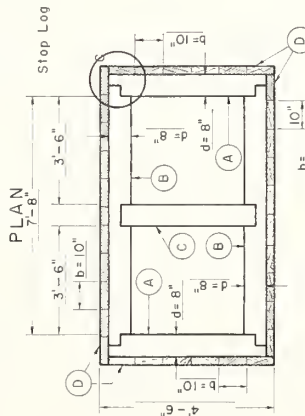
ALTERNATE OF DETAIL C

DETAIL C



DETAIL B

SECTION A-A



DESIGNATION OF STRUCTURAL MEMBERS															
MEMBER	MAXIMUM HEIGHT		MEMBER LENGTH	MAXIMUM NOTCHING		MEMBER HEIGHT	MAXIMUM SIZE		MEMBER	MAXIMUM SIZE		MEMBER	MAXIMUM LENGTH		
	a	b		d	e		d	b		d	d		b		
A	4'-0"	3"	8' 8"	B	7'-6"	3"	8' 8"	C	3'-2"	8' 8"	D	3'-10"	E	4'-0"	4' 4"
												F	8' 8"	G	3' 8"
													H	3'-5"	8' 8"

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE - DESIGN SHEET

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR.

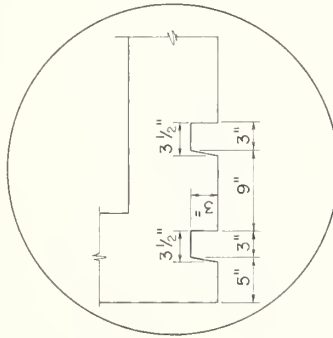
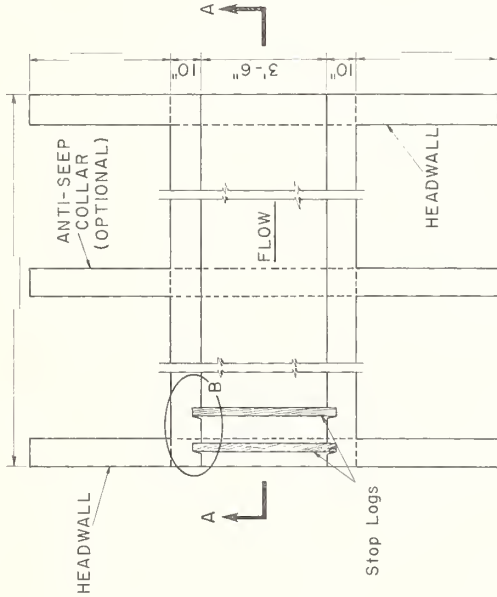
COMPILED BY

USE : ESNE - 51 FOR, HYDRAULICS

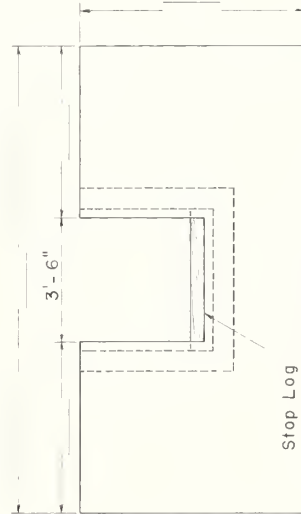
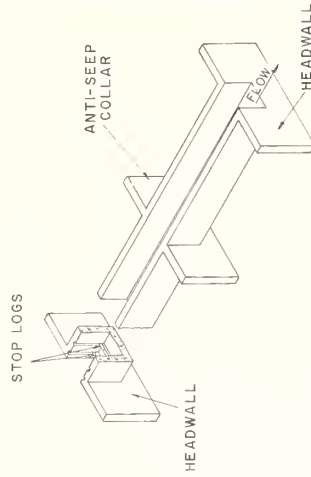
CRANBERRY BOG WATER CONTROL STRUCTURE PLAN OF COMBINATION SINGLE TIMBER GATE AND CONCRETE FLUME

BILL OF MATERIALS	
ITEM	QUANTITY
CONCRETE	
STOP LOGS	

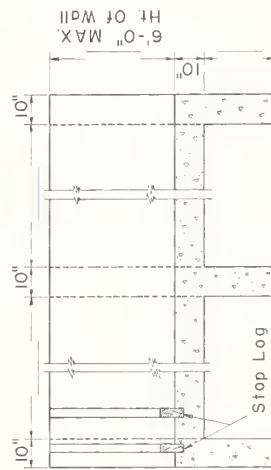
NOTE :
The maximum height of Side Walls from the top of the bottom slab shall be 6'-0".
Width of Headwall varies.
The use of a permanent stop log or a double stop log is optional. The minimum thickness of the stop log shall be 2".



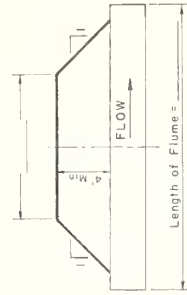
DETAIL B



FRONT VIEW



SECTION A-A



PREPARED BY
ENGINEERING
DESIGN UNIT
UPPER MARY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY
DATE
SHEET 1 OF 2

CRANBERRY BOG WATER CONTROL STRUCTURE
REINFORCING STEEL DETAILS OF SINGLE CONCRETE FLUME

LENGTH OF LAP AT SPLICES:

NO. 4 BAR = 15"

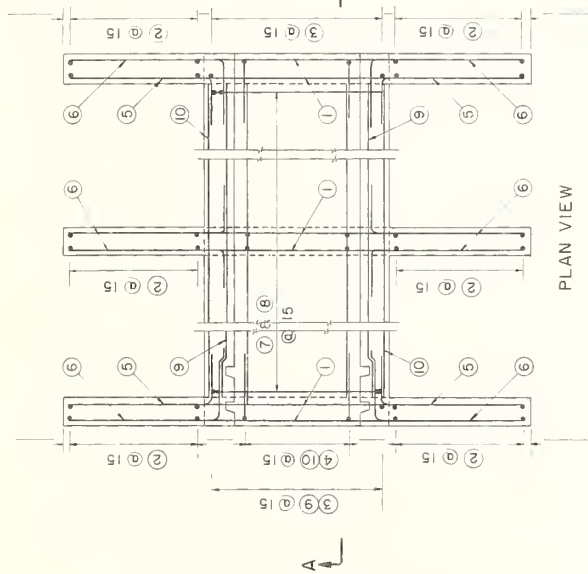
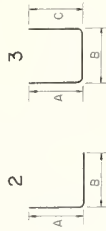
NO. 5 BAR = 19"

MINIMUM COVER:

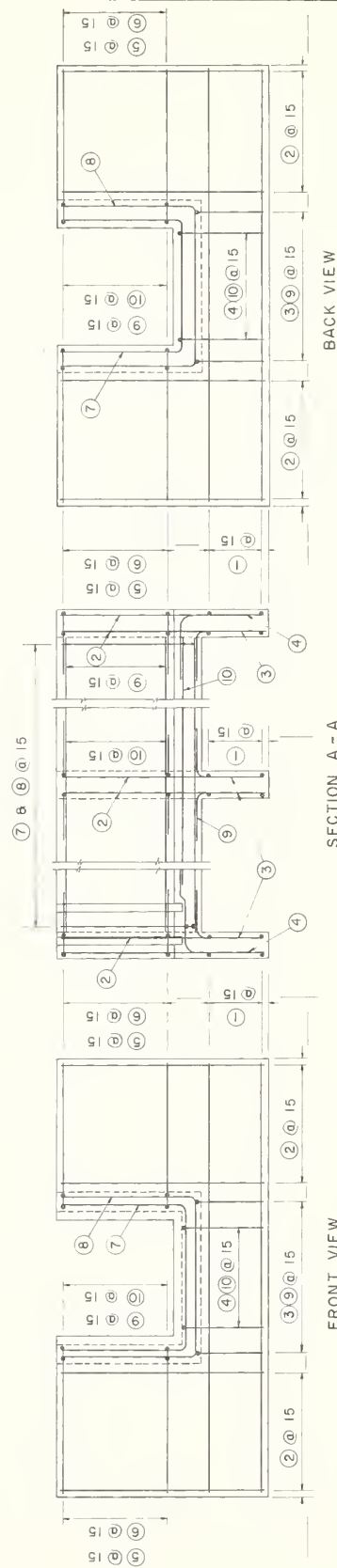
2" OF CLEAR CONCRETE

STEEL SCHEDULE							
MARK	LOCATION	QUAN	STEEL LENGTH	A	B	C	TOTAL FT.
1	Headwall	4	1				
2	"	5	1				
3	"	5	2				
4	"	4	2				
5	"	5	2				
6	"	5	3				
7	Floor - Sidewall	4	3				
8	"	4	3				
9	"	5	1				
10	"	4	1				

BAR TYPES



PLAN VIEW



FRONT VIEW

SECTION A - A

BACK VIEW

PREPARED BY:
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DABBY, PENNSYLVANIA

TECHNICAL APPROVAL FOR USE

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET

Feb 11 1891

Head 11-10-11
HEAD, ENGINEERING AND

WATERSHED PLANNING UNIT

TE OCTOBER 1958

U S DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

ASSISTING

Case	Year	Age	Sex	Occupation	Duration of illness (years)	Site of lesion	Pathological changes	Remarks
1	1950	25	M	Farmer	10	Brain	Chronic inflammation	
2	1951	35	F	Housewife	5	Brain	Chronic inflammation	
3	1952	45	M	Teacher	15	Brain	Chronic inflammation	
4	1953	55	F	Retired	20	Brain	Chronic inflammation	
5	1954	65	M	Farmer	25	Brain	Chronic inflammation	
6	1955	75	F	Housewife	30	Brain	Chronic inflammation	
7	1956	85	M	Retired	35	Brain	Chronic inflammation	
8	1957	95	F	Retired	40	Brain	Chronic inflammation	
9	1958	105	M	Retired	45	Brain	Chronic inflammation	
10	1959	115	F	Retired	50	Brain	Chronic inflammation	
11	1960	125	M	Retired	55	Brain	Chronic inflammation	
12	1961	135	F	Retired	60	Brain	Chronic inflammation	
13	1962	145	M	Retired	65	Brain	Chronic inflammation	
14	1963	155	F	Retired	70	Brain	Chronic inflammation	
15	1964	165	M	Retired	75	Brain	Chronic inflammation	
16	1965	175	F	Retired	80	Brain	Chronic inflammation	
17	1966	185	M	Retired	85	Brain	Chronic inflammation	
18	1967	195	F	Retired	90	Brain	Chronic inflammation	
19	1968	205	M	Retired	95	Brain	Chronic inflammation	
20	1969	215	F	Retired	100	Brain	Chronic inflammation	
21	1970	225	M	Retired	105	Brain	Chronic inflammation	
22	1971	235	F	Retired	110	Brain	Chronic inflammation	
23	1972	245	M	Retired	115	Brain	Chronic inflammation	
24	1973	255	F	Retired	120	Brain	Chronic inflammation	
25	1974	265	M	Retired	125	Brain	Chronic inflammation	
26	1975	275	F	Retired	130	Brain	Chronic inflammation	
27	1976	285	M	Retired	135	Brain	Chronic inflammation	
28	1977	295	F	Retired	140	Brain	Chronic inflammation	
29	1978	305	M	Retired	145	Brain	Chronic inflammation	
30	1979	315	F	Retired	150	Brain	Chronic inflammation	
31	1980	325	M	Retired	155	Brain	Chronic inflammation	
32	1981	335	F	Retired	160	Brain	Chronic inflammation	
33	1982	345	M	Retired	165	Brain	Chronic inflammation	
34	1983	355	F	Retired	170	Brain	Chronic inflammation	
35	1984	365	M	Retired	175	Brain	Chronic inflammation	
36	1985	375	F	Retired	180	Brain	Chronic inflammation	
37	1986	385	M	Retired	185	Brain	Chronic inflammation	
38	1987	395	F	Retired	190	Brain	Chronic inflammation	
39	1988	405	M	Retired	195	Brain	Chronic inflammation	
40	1989	415	F	Retired	200	Brain	Chronic inflammation	
41	1990	425	M	Retired	205	Brain	Chronic inflammation	
42	1991	435	F	Retired	210	Brain	Chronic inflammation	
43	1992	445	M	Retired	215	Brain	Chronic inflammation	
44	1993	455	F	Retired	220	Brain	Chronic inflammation	
45	1994	465	M	Retired	225	Brain	Chronic inflammation	
46	1995	475	F	Retired	230	Brain	Chronic inflammation	
47	1996	485	M	Retired	235	Brain	Chronic inflammation	
48	1997	495	F	Retired	240	Brain	Chronic inflammation	
49	1998	505	M	Retired	245	Brain	Chronic inflammation	
50	1999	515	F	Retired	250	Brain	Chronic inflammation	
51	2000	525	M	Retired	255	Brain	Chronic inflammation	
52	2001	535	F	Retired	260	Brain		

SOIL CONSERVATION DISTRICT

COOPERATOR

COMPILED BY -

SHEET 2 OF 2

CRANBERRY BOG WATER CONTROL STRUCTURE PLAN OF DOUBLE TIMBER GATE AND CONCRETE FLUME

BILL OF MATERIALS

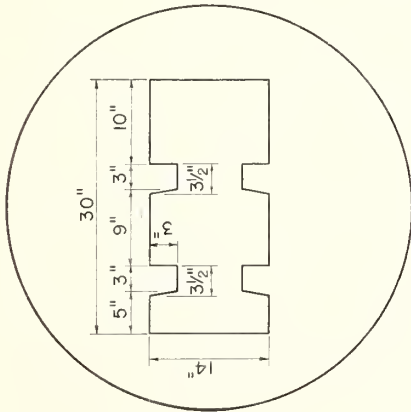
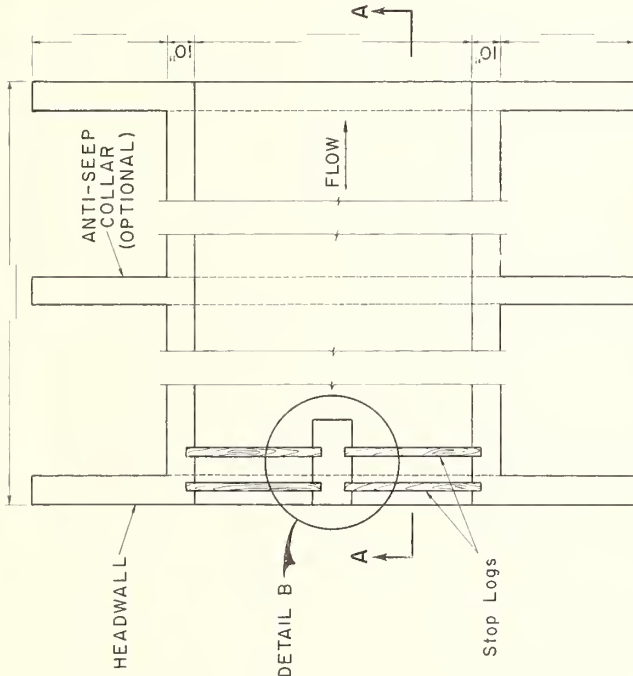
ITEM	QUANTITY
CONCRETE	
STOP LOGS	

NOTE

The maximum height of Side Walls from the top of the bottom slab shall be 6'-0".

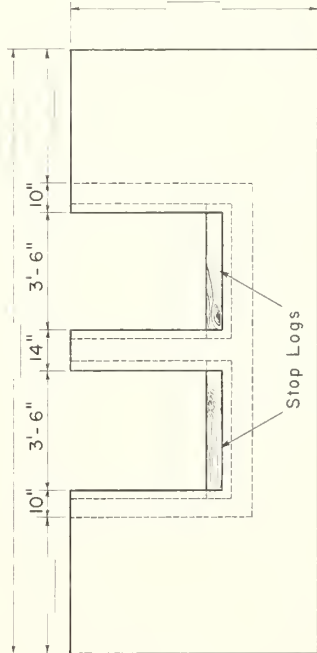
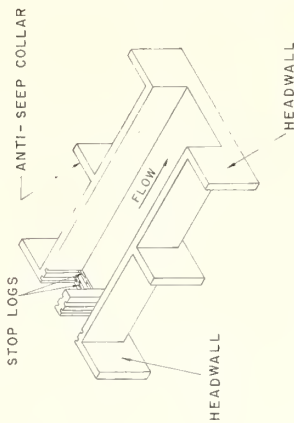
Width of headwall varies.

The use of a permanent stop lag or a double stop log is optional. The minimum thickness of the stop log shall be 2".

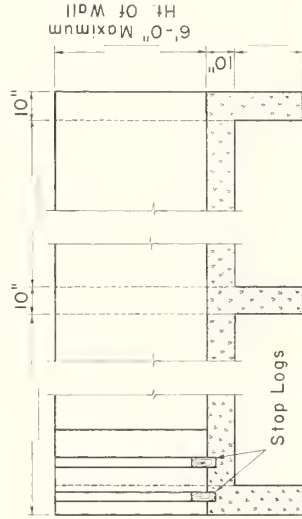


DETAIL B

PLAN VIEW



FRONT VIEW



SECTION A-A

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET

HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE OCTOBER 1958

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE
SHEET 1 OF 2

USE: ESME 51 FOR HYDRAULICS

CRANBERRY BOG WATER CONTROL STRUCTURE REINFORCING STEEL DETAILS OF DOUBLE CONCRETE FLUME

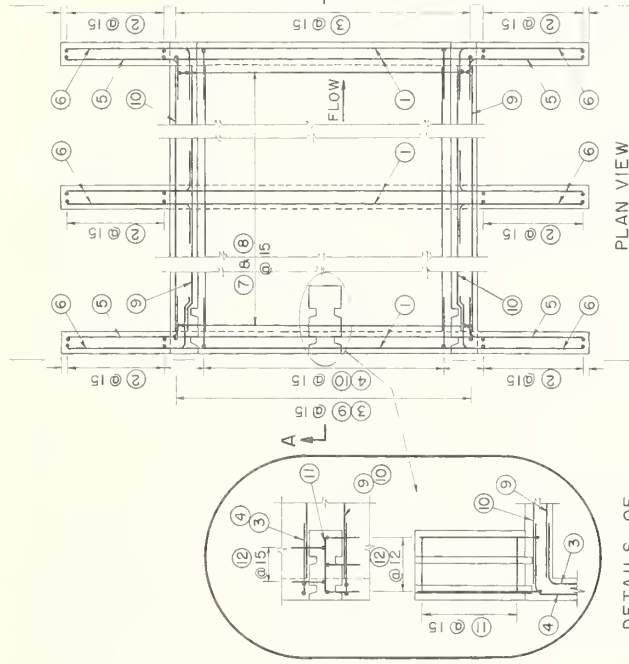
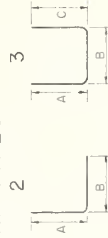
NOTE

LENGTH OF LAP AT SPLICES:
NO. 4 BAR = 15"
NO. 5 BAR = 19"
MINIMUM COVER:
2" OF CLEAR CONCRETE

STEEL SCHEDULE

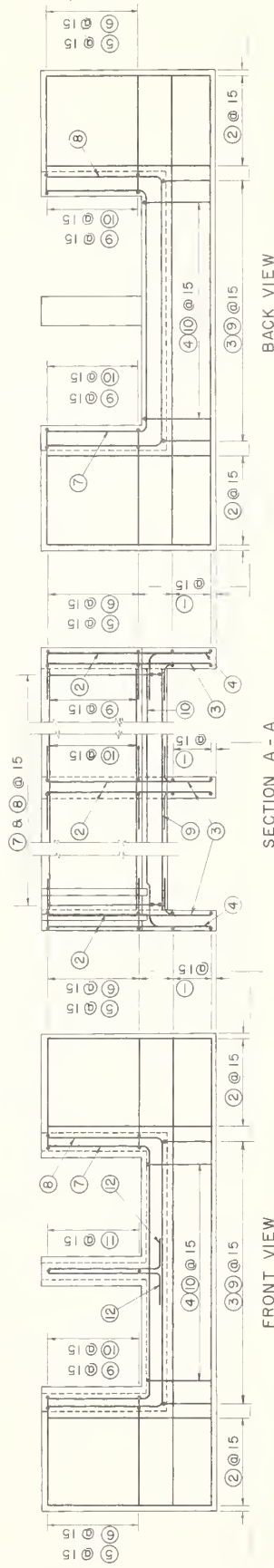
NO.	LOCATION	QUAN.	SIZE	LENGTH	A	B	C	TOTAL FT.
1	Headwall	4	1					
2	"	5	1					
3	"	5	2					
4	"	4	2					
5	"	5	2					
6	"	5	3					
7	Floor - Sidewall	4	3					
8	"	4	3					
9	"	5	1					
10	"	4	1					
11	Center Support	5	1					
12	"	5	2					

BAR TYPES



DETAILS OF
CENTER SUPPORT

PLAN VIEW



FRONT VIEW

SECTION A - A

BACK VIEW

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGNED SHEET
HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE: OCTOBER 1958

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

SHEET 2 OF 2

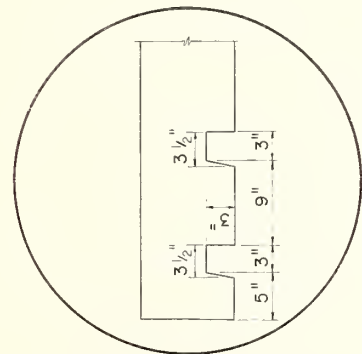
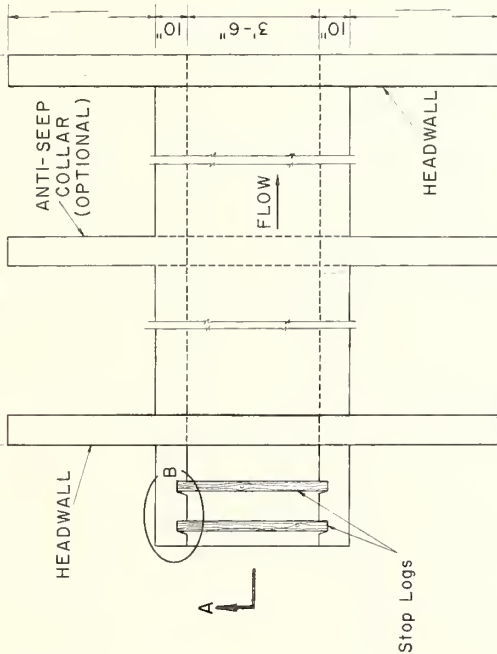
CRANBERRY BOG WATER CONTROL STRUCTURE PLAN OF COMBINATION SINGLE TIMBER GATE AND CONCRETE CONDUIT

BILL OF MATERIALS

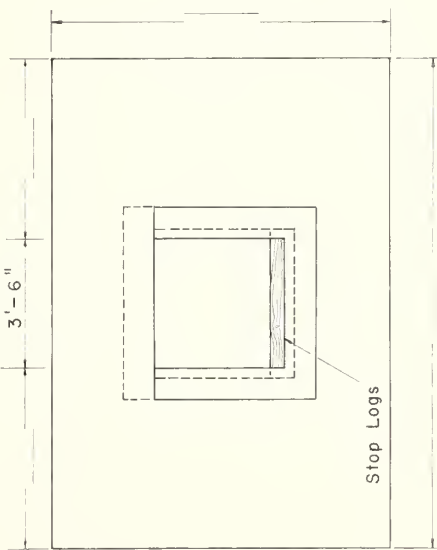
ITEM	QUANTITY
CONCRETE	
STOP LOGS	

NOTE:

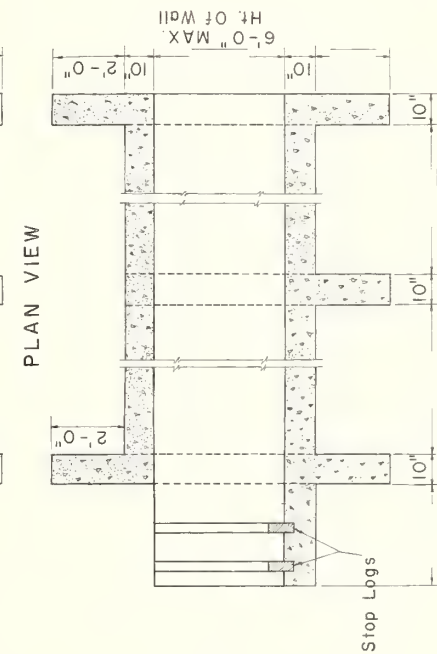
The maximum height of Side Walls from the top of the bottom slab shall be 6'-0".
Width of Headwall varies.
The use of a permanent stop log or a double stop log is optional. The minimum thickness of the stop log shall be 2".



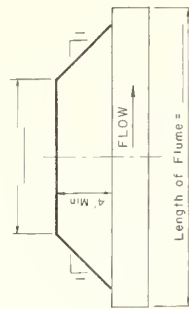
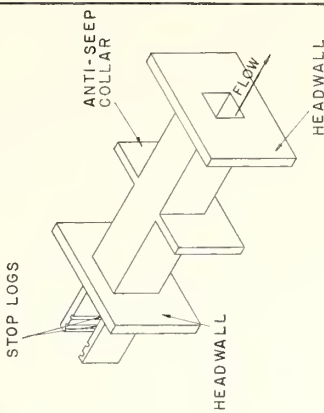
DETAIL B



FRONT VIEW



SECTION A-A



TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGN SHEET
HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE: OCTOBER 1958

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER OARBY, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

DATE
SHEET 1 OF 2

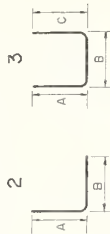
USE: ESNE 54 FOR HYDRAULICS

CRANBERRY BOG WATER CONTROL STRUCTURE REINFORCING STEEL DETAILS OF SINGLE CONCRETE CONDUIT

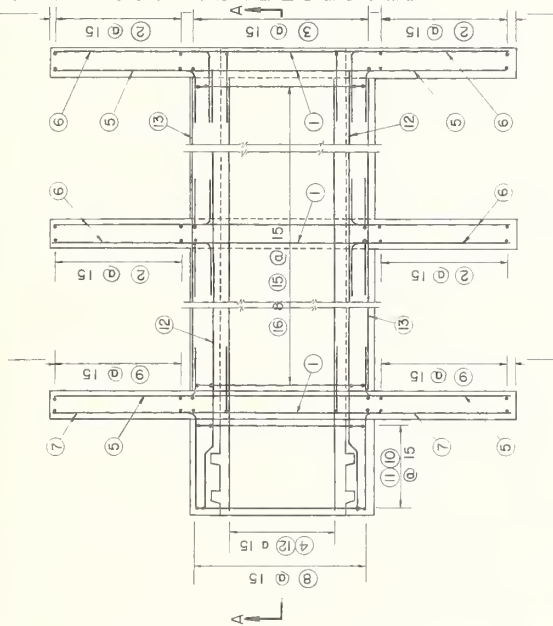
STEEL SCHEDULE

NO.	LOCATION	QUAN.	SIZE	LENGTH	A	B	C	TOTAL FT.
1	Headwall	4	1					
2	"	5	1					
3	"	5	2					
4	"	4	2					
5	"	5	2					
6	"	5	2					
7	"	5	2					
8	"	5	2					
9	"	5	1					
10	Floor-Sidewall	4	3					
11	"	4	3					
12	"	5	1					
13	Top - Sidewall	4	1					
14	"	5	1					
15	"	4	3					
16	"	4	3					

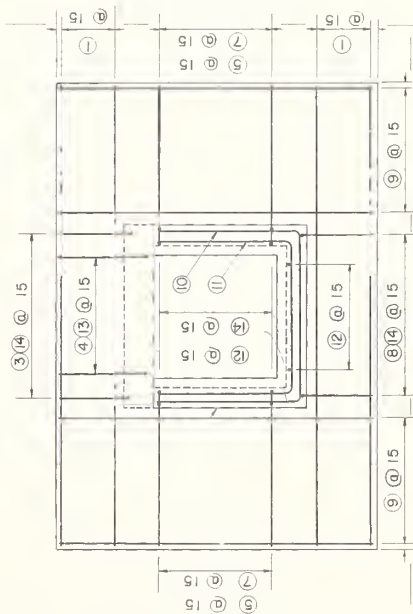
BAR TYPES



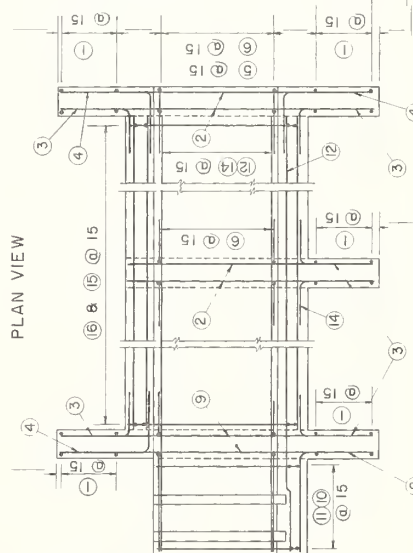
NOTE:
LENGTH OF LAP AT SPLICES:
NO. 4 BAR = 15"
NO. 5 BAR = 19"
MINIMUM COVER:
2" OF CLEAR CONCRETE



PLAN VIEW



FRONT VIEW



BACK VIEW

PREPARED BY
ENGINEERING AND WATER
PLANNING UNIT
DAIRY DIVISION
UPPER MERION, PENNSYLVANIA

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING

SOIL CONSERVATION DISTRICT

COOPERATOR

COMPILED BY

DATE

SHEET 2 OF 2

CRANBERRY BOG WATER CONTROL STRUCTURE
PLAN OF DOUBLE TIMBER GATE AND CONCRETE CONDUIT

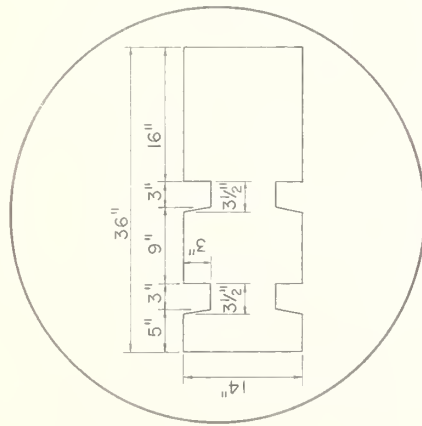
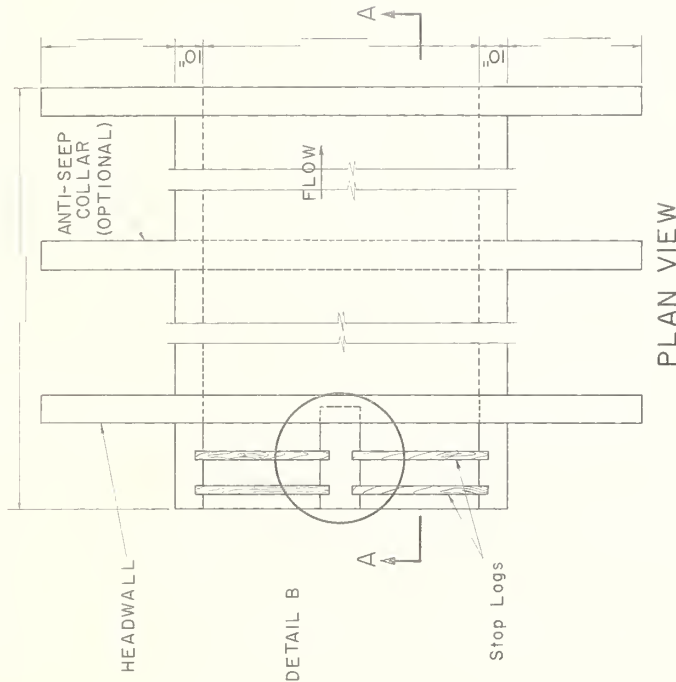
BILL OF MATERIALS	
ITEM	QUANTITY
CONCRETE	
STOP LOGS	

NOTE:

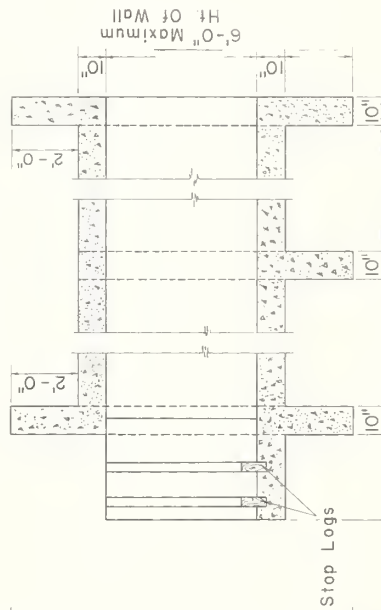
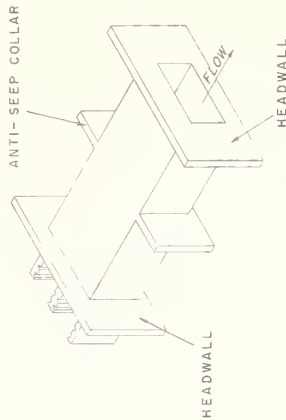
NOTE
The maximum height of Side Walls from the top of the bottom slab shall be 6'-0"

Width of Headwall varies.

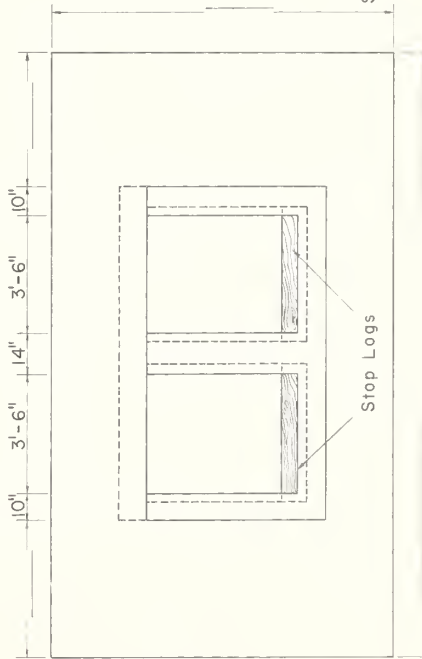
The use of a permanent stop log or a double stop log is optional. The minimum thickness of the stop log shall be 2".



DETAIL B



SECTION A-A



FRONT VIEW

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE - DESIGN SHEET

PREPARED BY
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR

COMPILED BY _____ DATE _____

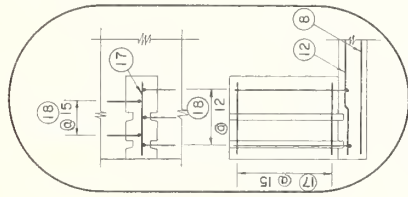
SHEET 1 OF 2

USE: ESNE 54 FOR HYDRAULICS

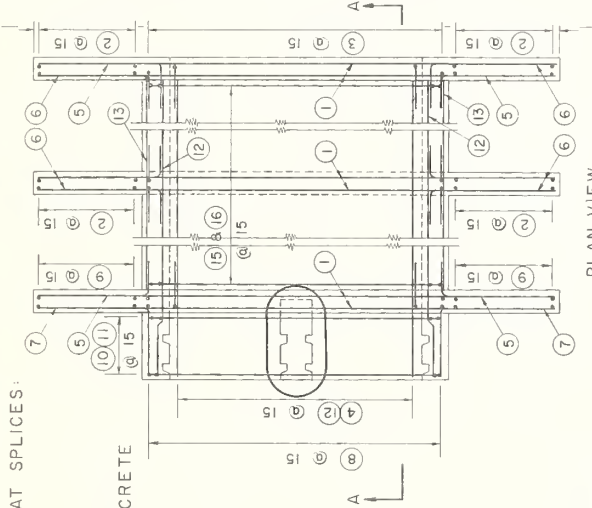
CRANBERRY BOG WATER CONTROL STRUCTURE REINFORCING STEEL DETAILS OF DOUBLE CONCRETE CONDUIT

NOTE:

LENGTH OF LAP AT SPLICES:
NO. 4 BAR = 15"
NO. 5 BAR = 19"
MINIMUM COVER
2" OF CLEAR CONCRETE



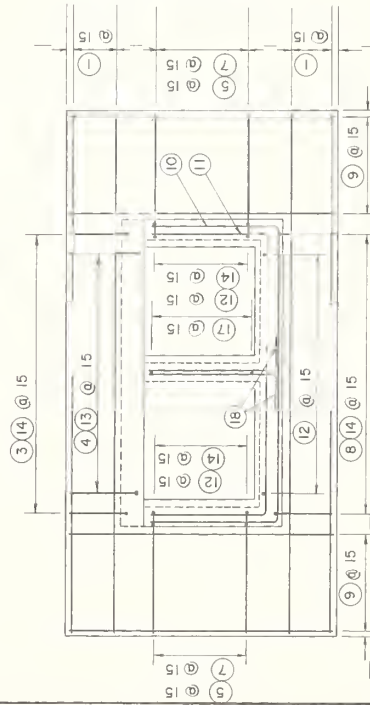
DETAILS OF
CENTER SUPPORT



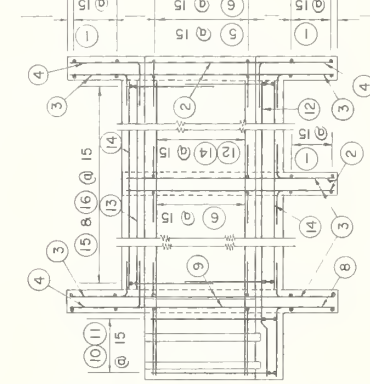
PLAN VIEW

BAR TYPES

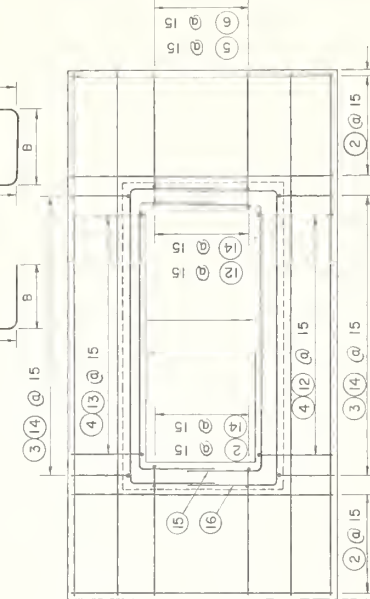
NO.	LOCATION	QUAN.	SIZE	LENGTH	A	B	C	TOTAL FT.
1	Headwall	4	1					
2	"	5	1					
3	"	5	2					
4	"	4	2					
5	"	5	2					
6	"	5	2					
7	"	5	2					
8	"	5	2					
9	"	5	1					
10	Floor - Sidewall	4	3					
11	"	4	3					
12	"	5	1					
13	Tap - Sidewall	4	1					
14	"	5	1					
15	"	4	3					
16	"	4	3					
17	Center Support	5	1					
18	"	5	2					



FRONT VIEW



SECTION A - A



BACK VIEW

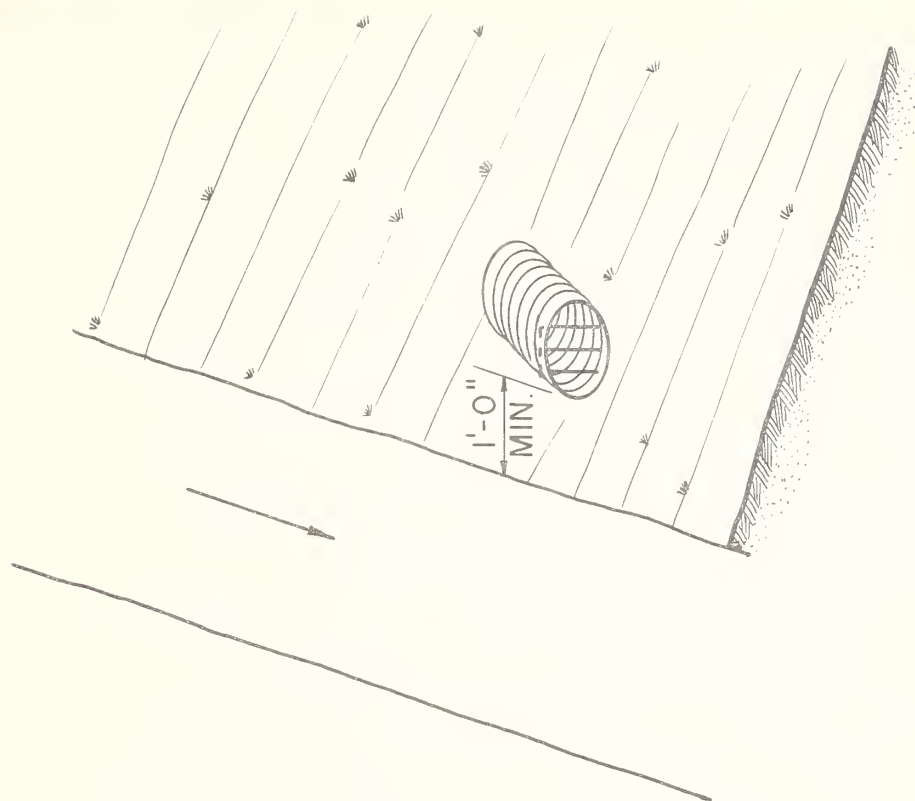
PREPARED BY:
ENGINEERING AND WATERSHED
PLANNING UNIT
DESIGN SECTION
UPPER DARBY, PENNSYLVANIA

TECHNICAL APPROVAL FOR USE
AS AN APPROVED PRE-DESIGNED SHEET
Shelley J. Zeman
HEAD, ENGINEERING AND
WATERSHED PLANNING UNIT
DATE OCTOBER 1958

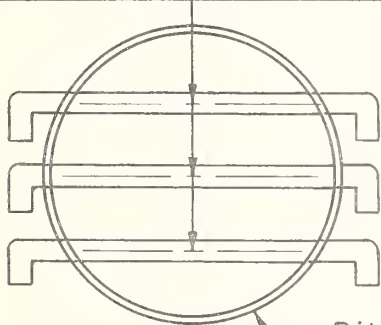
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ASSISTING
SOIL CONSERVATION DISTRICT

COOPERATOR
COMPILED BY

SMALL ANIMAL GUARD



$\frac{3}{8}$ " ϕ Bars bent at each end
 $\frac{3}{8}$ " ϕ Bolts and nuts at $1\frac{1}{2}$ " c.c.



Bituminous Coated
Corrugated Metal Pipe

END VIEW



ELEVATION

Material: _____ Feet of $\frac{3}{8}$ " ϕ Bars
 _____ $\frac{3}{8}$ " ϕ Bolts and Nuts

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Prepared By:
ENGINEERING & WATERSHED PLANNING UNIT
UPPER DARBY, PENNSYLVANIA

DRAWING NO.

APD-266

SHEET 1 OF 2

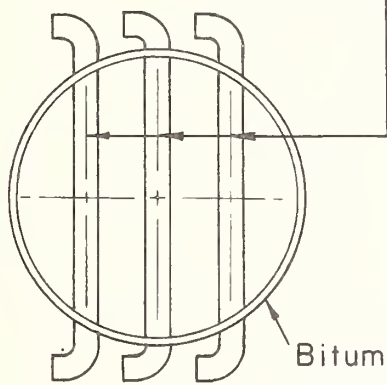
DATE _____

APPROVED: *Paul H. Lamm* Head E & WP Unit Sept. '59

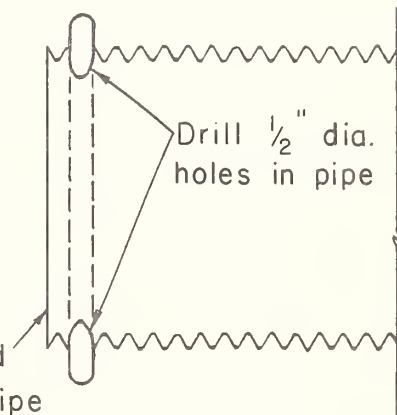
SMALL ANIMAL GUARD



$\frac{3}{8}$ " ϕ Bars bent at each end
 $\frac{3}{8}$ " ϕ Bolts and nuts at 1 $\frac{1}{2}$ " c.c.



END VIEW



ELEVATION

Material: _____ Feet of $\frac{3}{8}$ " ϕ Bars
 _____ $\frac{3}{8}$ " ϕ Bolts and Nuts

U. S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

Prepared By:
 ENGINEERING & WATERSHED PLANNING UNIT
 UPPER DARBY, PENNSYLVANIA

DRAWING NO.

APD-266

SHEET 2 OF 2

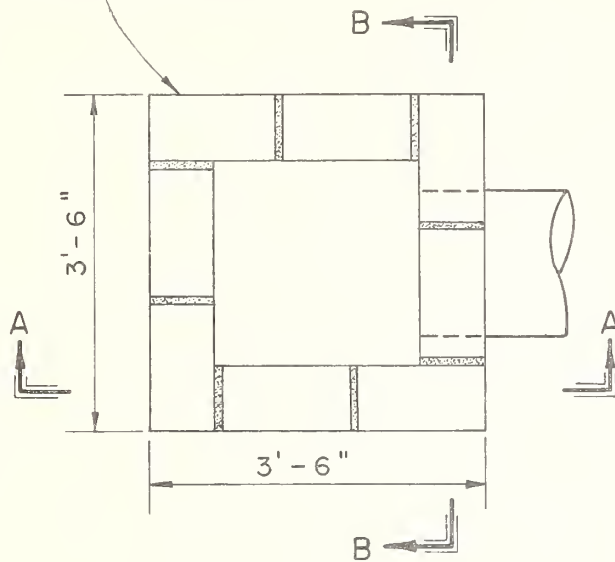
DATE _____

APPROVED *W. H. Lamm* Head, E & WP Unit Sept. '59

CONCRETE BLOCK DROP INLET

INSIDE DIMENSION - 2'-2" SQ.
WALL THICKNESS 8"

8 Blocks per layer



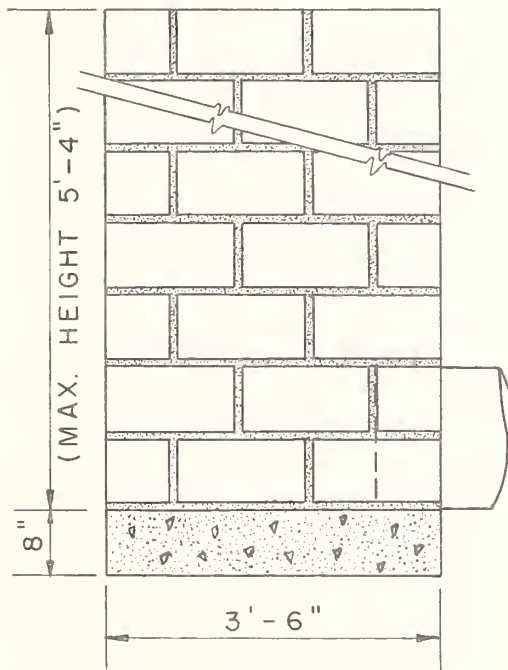
PLAN

QUANTITIES

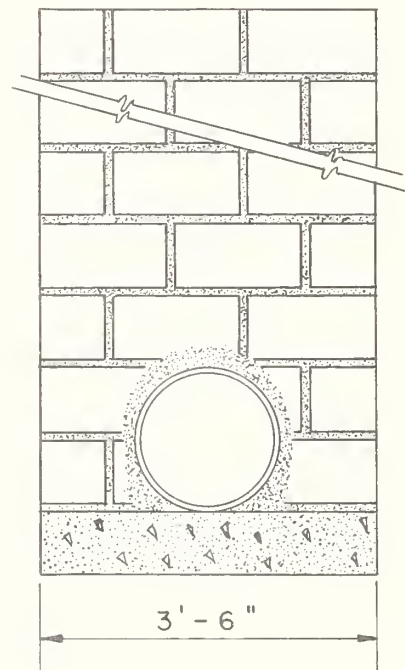
16" x 8" x 8" Concrete Block _____
Concrete 0.3 Cu. Yds.

NOTES:

- (1) Use cement mortar, composed of 1 part Portland Cement to not more than 3 parts of sand proportioned by volume, between and inside the concrete blocks.
- (2) A minimum of 2" of concrete shall be placed between the pipe and riser wall.
- (3) 4" to 18" diameter pipe may be used.



SECTION A-A



SECTION B-B

Technical Approval For Use As An
Approved Pre-Design Sheet.

HEAD ENGINEERING AND
WATERSHED PLANNING UNIT

DATE: 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Prepared By:

ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION UPPER DARBY, PENNSYLVANIA

DRAWING NO

APD - 267

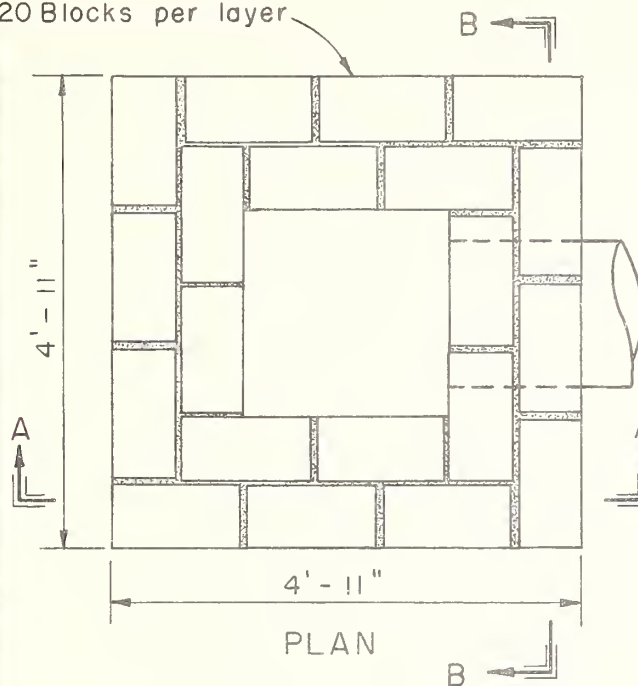
SHEET 1 OF 1

DATE June 1959

CONCRETE BLOCK DROP INLET

INSIDE DIMENSION - 2'-2" SQ.
WALL THICKNESS 16"

20 Blocks per layer

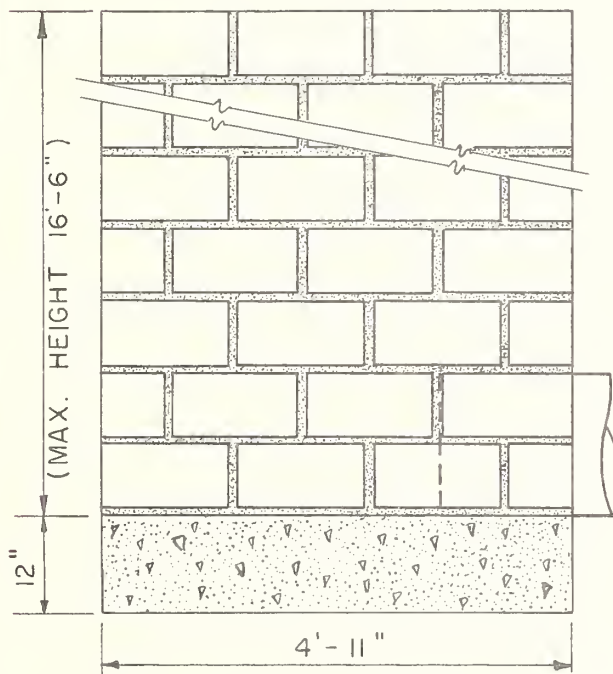


QUANTITIES

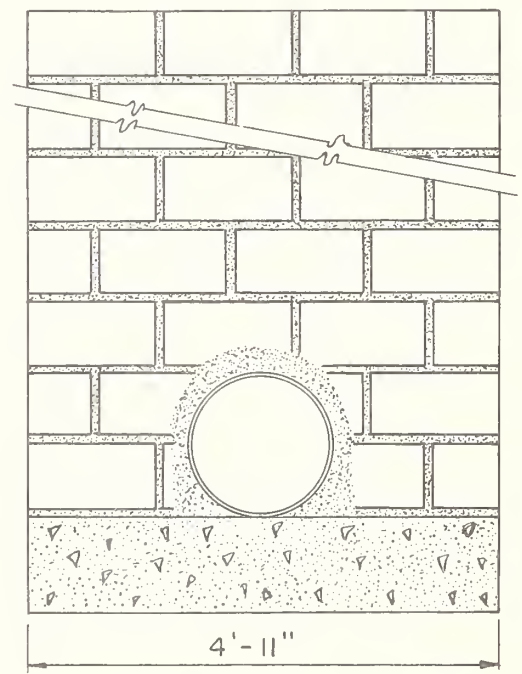
16" x 8" x 8" Concrete Block _____
Concrete 0.9 Cu. Yds.

NOTES:

- (1) Use cement mortar, composed of 1 part Portland Cement to not more than 3 parts of sand proportioned by volume, between and inside the concrete blocks.
- (2) A minimum of 2" of concrete shall be placed between the pipe and riser wall.
- (3) 4" to 18" diameter pipe may be used.



SECTION A-A



SECTION B-B

Technical Approval For Use As An
Approved Pre-Design Sheet

HEAD ENGINEERING AND
WATERSHED PLANNING UNIT

DATE: 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Prepared By:

ENGINEERING & WATERSHED PLANNING UNIT

DESIGN SECTION UPPER DARBY, PENNSYLVANIA

DRAWING NO.

APD-268

SHEET 1 OF 1

DATE June 1959

CONCRETE BLOCK DROP INLET

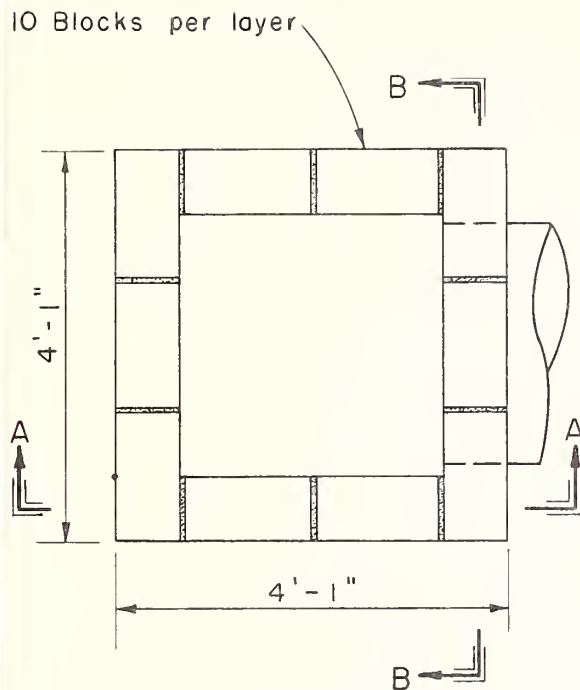
INSIDE DIMENSION - 2'-9" SQ.
WALL THICKNESS 8"

QUANTITIES

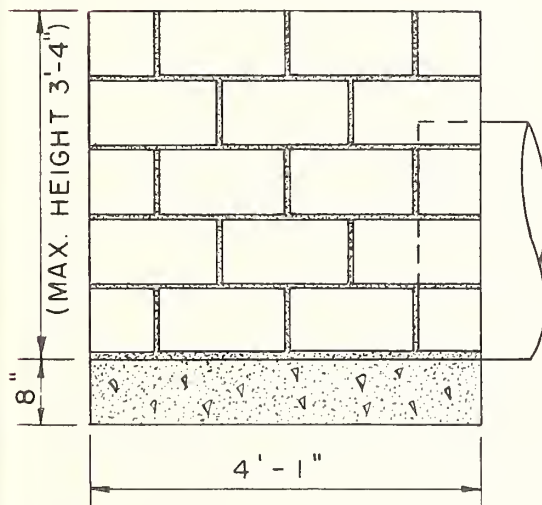
16" x 8" x 8" Concrete Block _____
Concrete 0.4 Cu. Yds.

NOTES:

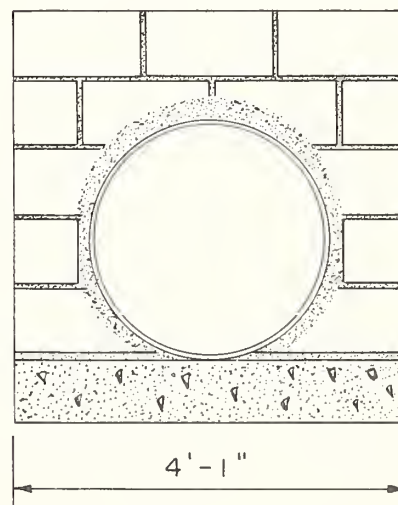
- (1) Use cement mortar, composed of 1 part Portland Cement to not more than 3 parts of sand proportioned by volume, between and inside the concrete blocks.
- (2) A minimum of 2" of concrete shall be placed between the pipe and riser wall.
- (3) 18" to 30" diameter pipe may be used.



PLAN



SECTION A-A



SECTION B-B

Technical Approval For Use As An
Approved Pre-Design Sheet

2.11
HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE: 9-18-59

U S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Prepared By:
ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION UPPER DARBY, PENNSYLVANIA

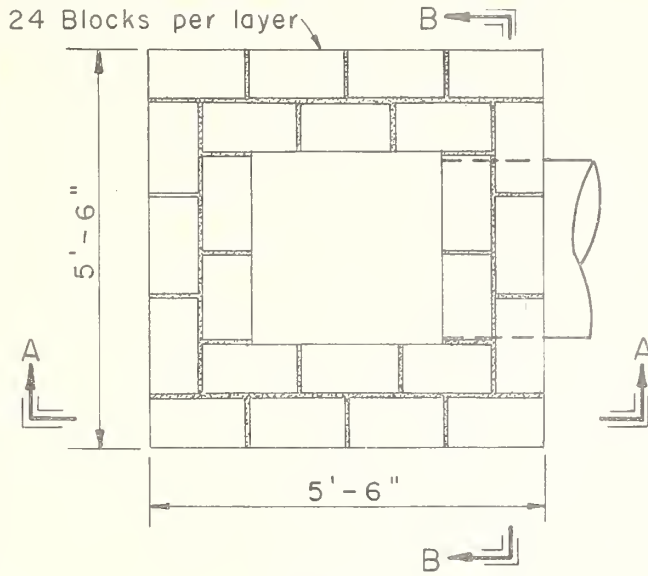
DRAWING NO.

APD - 269

SHEET 1 OF 1
DATE June 1959

CONCRETE BLOCK DROP INLET

INSIDE DIMENSION - 2'-9" SQ.
WALL THICKNESS 16"



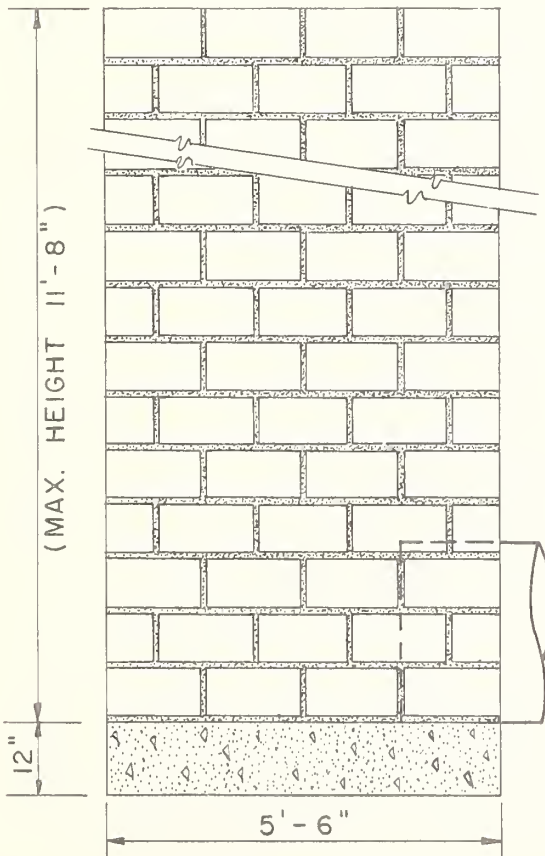
PLAN

QUANTITIES

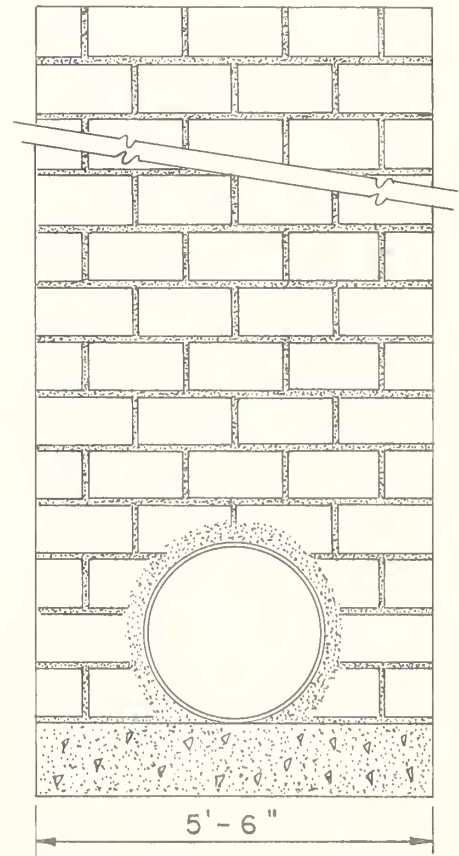
16" x 8" x 8" Concrete Block _____
Concrete _____ 1.1 _____ Cu. Yds.

NOTES:

- (1) Use cement mortar, composed of 1 part Portland Cement to not more than 3 parts of sand proportioned by volume, between and inside the concrete blocks.
- (2) A minimum of 2" of concrete shall be placed between the pipe and riser wall.
- (3) 18" to 30" diameter pipe may be used.



SECTION A-A



SECTION B-B

Technical Approval For Use As An
Approved Pre-Design Sheet

HEAD ENGINEERING AND
WATERSHED PLANNING UNIT

DATE: 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Prepared By:

ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION UPPER DARBY, PENNSYLVANIA

DRAWING NO.

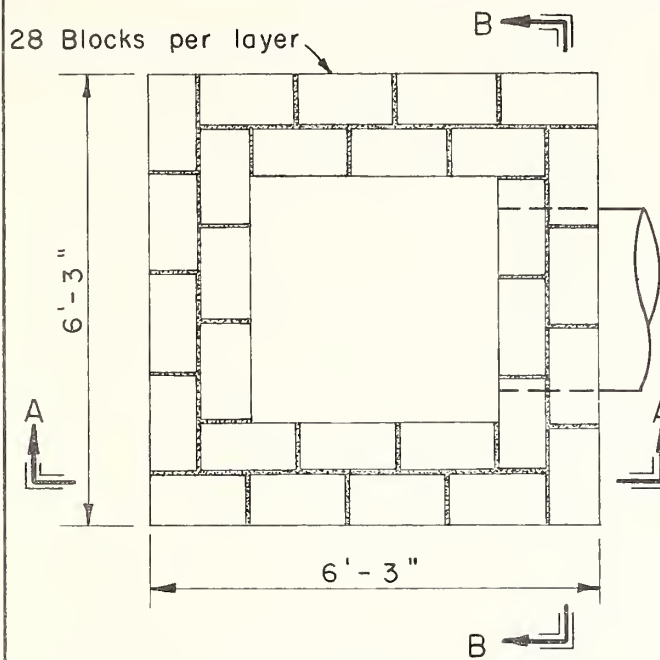
APD - 270

SHEET 1 OF 1

DATE June 1959

CONCRETE BLOCK DROP INLET

INSIDE DIMENSION - 3'-6" SQ.
WALL THICKNESS 16"

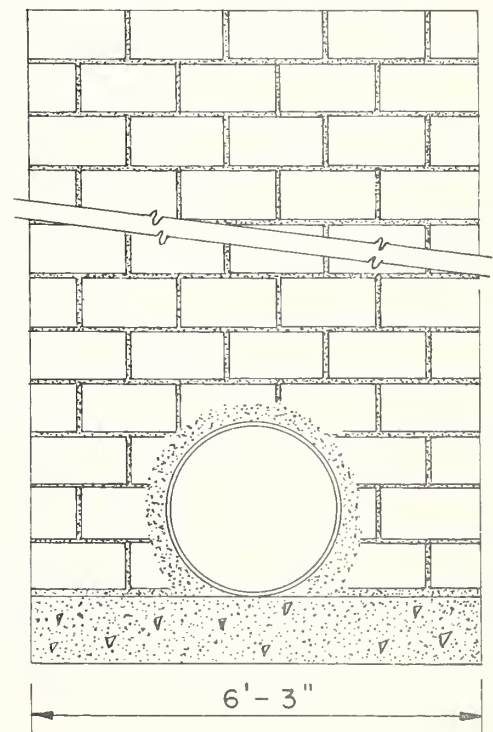
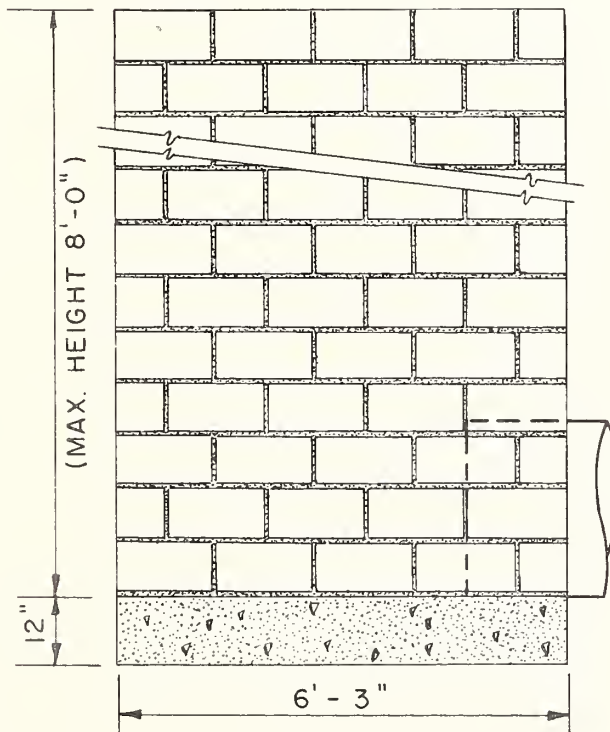


QUANTITIES

16" x 8" x 8" Concrete Block _____
Concrete _____ 1.4 Cu. Yds.

NOTES:

- (1) Use cement mortar, composed of 1 part Portland Cement to not more than 3 parts of sand proportioned by volume, between and inside the concrete blocks.
- (2) A minimum of 2" of concrete shall be placed between the pipe and riser wall.
- (3) 30" to 36" diameter pipe may be used.



Technical Approval For Use As An
Approved Pre-Design Sheet

HEAD ENGINEERING AND
WATERSHED PLANNING UNIT
DATE: 9-18-59

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Prepared By:
ENGINEERING & WATERSHED PLANNING UNIT
DESIGN SECTION UPPER DARBY, PENNSYLVANIA

DRAWING NO.

APD - 271

SHEET 1 OF 1
DATE June 1959



R0000 500254



R0000 500254